THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

VOL. CLIII. OCTOBER 22 1937 No. 4942

ST. THOMAS'S ARMS.

This Coat of Arms adorns one flank of the Hall of Riddell House, St. Thomas's Hospital, S.E., illustrated and described in this issue. Sir Edwin Cooper, R.A., is the architect.

MEETINGS

Friday, October 22.

Institution of Structural Engineers. (Midland Counties Branch.) Mr. H. E. Brooke-Bradley on "The Road as a Structure." James Watt Memorial Institute, York House, Great Charles-street, Birmingham. 6.30 p.m.

Institution of Mechanical Engineers. Presidential Address. 6 p.m.

Monday, October 25.

Institution of Mechanical Engineers (Graduates' Section). Mr. L. W. Schuster on "Significance of Notched Bar and Izod Tests." 6.45 p.m.

Tuesday, October 26.

Architectural Association. Address by the President, Mr. L. H. Bucknell, on "Industrial Architecture." 8.30 p.m.

Institution of Electrical Engineers (Scottish Centre). Mr. F. C. Winfield on "Fire Precautions in Major Electrical Stations." North British Station Hotel, Edinburgh. 7 p.m.

Institution of Mechanical Engineers (Southern Branch). Annual Dinner. The Guildhall, Portsmouth. 7 p.m.

Tuesday-Friday, October 26-November 5.

Royal Academy of Arts. Mr. H. J. Plenderleith on "Craftsmanship and Painting." Dates: October 26, 29; November 1, 2, 4 and 5.

Tuesday-Tuesday, October 26-November 16.

Architectural Association. Annual Exhibition of Water Colours, Etchings and other Drawings by members.

Wednesday, October 27.

Liverpool Architectural Society. President's Introductory Talk by Mr. B. M. Ward, and announcement of H. W. Williams' Prize Award. Bluecoat Chambers. 6 p.m.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "Italian Renaissance (1400-1900): Palaces and Villas of Rome." 6 p.m.

Worshipful Company of Carpenters. Mr. Hope Bagenal on "Sound-proof and Anti-vibration." 7.30 p.m.

Thursday, October 28.

Institution of Structural Engineers. Presidential Address by Professor J. Husband. Institution of Civil Engineers, Great George-street, S.W.1. 6.30 p.m.

Friday, October 29.

Joint Committee on Materials and their Testing of Technical Institutions and Societies in Great Britain. College of Technology Sackville-street, Manchester, 2.30 p.m. Professor R. V. Southwell on "The Physical Meaning of Impact Tests"; Mr. L. W. Schuster on "Some Aspects of the Notched Bar Test"; and Dr. Ing. Max Moser on "The Development and Present Position of Continental Research on the Notched Bar Impact Test."

Institution of Mechanical Engineers (Midland Branch). Annual Dinner. Queen's Hotel, Birmingham.

Monday, November 1.

Royal Institute of British Architects. Inaugural Meeting. Presidential Address by Mr. H. S. Goodhart-Rendel. Presentation of the London Architecture Bronze Medal, 1936, to Messrs. Stanley Hall, Easton and Robertson. Unveiling of Portrait of the Past-President. 8.30 p.m.

Liverpool Architectural Society. Films, featuring glass wall lining and glass bricks. 6 p.m.

Tuesday, November 2.

The Institution of Civil Engineers. Presidential address by Mr. Sydney Bryan Donkin. 6 p.m.

Wednesday, November 3.

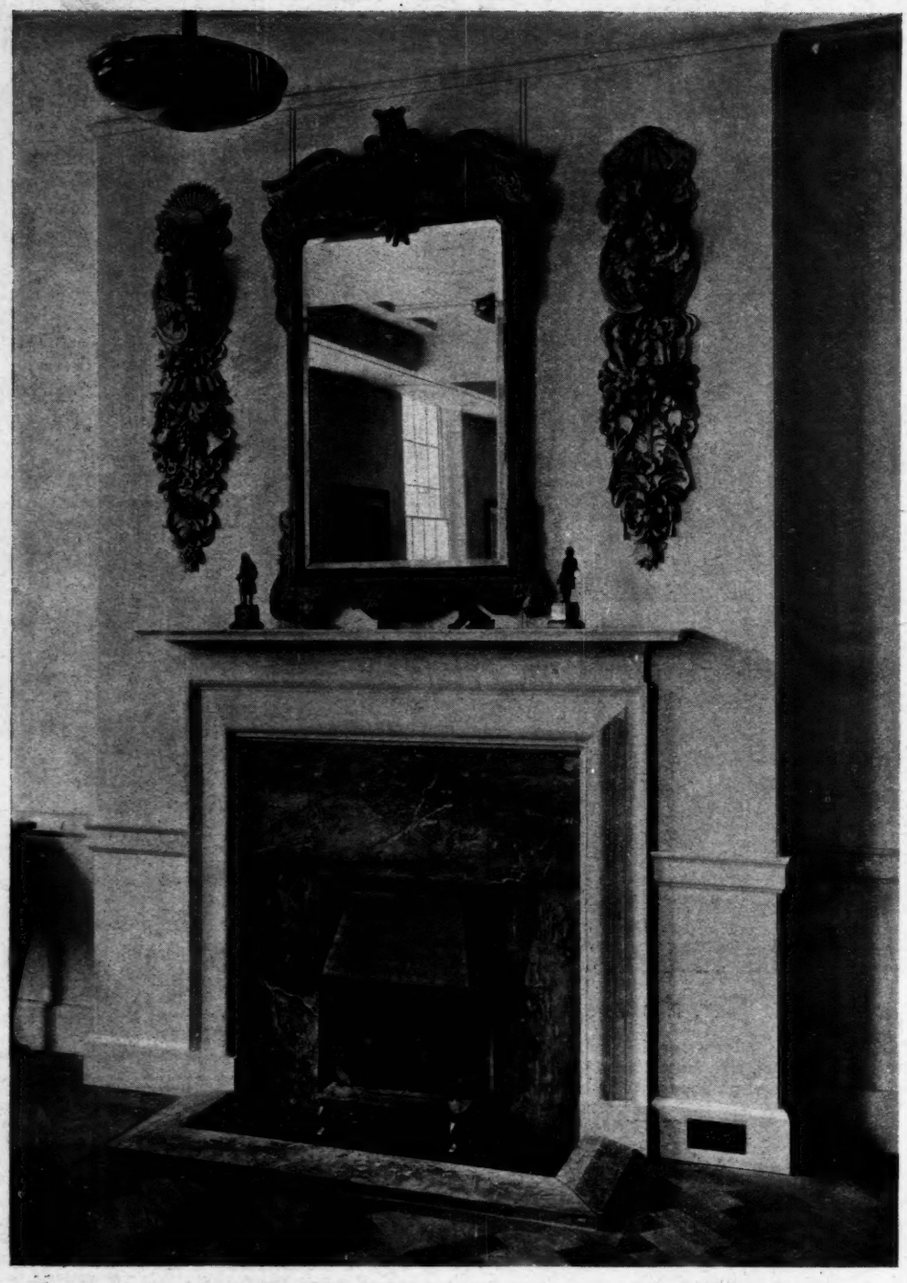
Ecclesiological Society. Mr. D. Chisholm Simpson on "Moorish Architecture in Spain." 6, Queen-square, W.C.1. 8 p.m.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher on "Italian Renaissance (1400-1900): St. Peter's Cathedral and the Vatican, Rome." 6 p.m.

Institution of Heating and Ventilating Engineers. Messrs. W. Gilchrist and S. A. Williams on "Electric Heating." Institution of Mechanical Engineers, S.W.1. 7 p.m.

Royal Society of Arts. Rt. Hon. Lord Amulree on "The State and the Worker." 8.30 p.m.

Worshipful Company of Carpenters. Mr. H. H. Clay on "Sanitation of Domestic Buildings: (*a*) Urban and (*b*) Rural." 7.30 p.m.



A CHIMNEYPIECE, RIDDELL HOUSE, ST. THOMAS'S HOSPITAL.

This chimneypiece is one of two adorning the two sitting-rooms in Riddell House, the new Nurses' Homes at St. Thomas's Hospital, illustrated on pages 725—732. The architect is Sir Edwin Cooper, R.A.

TOPICS OF THE DAY

MINISTRY OF HEALTH INQUIRIES.

THE official report on the inquiries held to hear appeals arising out of consents withheld from building projects contains some disturbing factors. Chief of these is the very high percentage of appeals which have been allowed. This fact speaks well for the fairness of the hearing, but it does, at the same time, suggest that the original decisions of the authorities are being made with insufficient regard for law and equity. If it were found that a high proportion of police prosecutions for motoring offences were being dismissed in the courts, there would be a storm of protest—not against the Bench for undue clemency, but against the police for their disregard of the law. In this case there seems an equal need for an inquiry into the state of affairs, because it would appear, on the face of things, that a high proportion of unnecessary delays is being caused.

In comparison with the number of applications which are received every month, it may be suggested that these appeals have a negligible bearing upon the question at large; but we are more inclined to regard them as symptomatic of a general state of affairs, remembering the reluctance of the individual to suffer the delay of appeal at the cost of considerable inconvenience and worry.

At the same time, there is a considerable opinion that the inquiries themselves are not the perfect substitute for an English Court for which they are supposed to stand. We have heard of a case in which all evidence having been heard and the site visited, the findings of a Ministry inspector were not published until three months after the inquiry. Such a sequence of events suggests that an appeal is influenced by factors outside the range of normal evidence. There is no doubt that the whole question of modern law-making needs a thorough overhaul, lest we find ourselves entirely ruled by a bureaucratic dictatorship no less desirable than the individual dictatorship which this country rejects.

RHEIMS CATHEDRAL RESTORED.

THE consecration this week of Rheims Cathedral marked the completion of the work of restoration which began 16 years ago. The Cathedral was seriously damaged by German artillery during the War, the first shell hitting it on September 4, 1914, and the last on September 17, 1918. All told, it received 287 direct hits. It is recorded that seven of the 22 flying buttresses were broken, 14 of the 18 windows were seriously damaged, 882,000 lb. of lead roof was melted, 23 of the 56 statues in the Gallery of the Kings were practically destroyed, 2,000 square yards of stained glass (half the total area) was smashed, and much of the elaborate stone carving shattered. The reason given by the Germans for the bombardment was that the Cathedral was used as an observation post, an accusation naturally denied by the French.

Fortunately (if there can be anything fortunate about the shattering of a great monument of mediæval art), the shell of the Cathedral remained intact, and more fortunately still a Rheims architect, M. Henri Deneux (under whom the work has been carried out), had made for his own pleasure many detailed drawings of the building, which have been of the utmost value in completing the restoration. An account of the work was given during its progress in our issue for January 8, 1926, and here it may be recalled that its many interesting features include new roof principals of reinforced concrete, the recasting of the old lead to cover the roof, and the restoration of several of the windows with broken fragments of glass. The general appearance of the Cathedral is well conveyed in the photograph reproduced on page 721.

The shattering of Rheims Cathedral was but one illustration of the military axiom that necessity knows no law. It is a significant commentary on modern civilisation that in this respect no progress seems to have been made since the days of barbarism.

THE OUTLOOK FOR BUILDING.

FROM official figures given on page 752 it will be seen that the downward tendency of estimated building work as compared with the 1936 figures, which has been noted for the past four months (*i.e.*, May to August), has been arrested. The estimated cost of buildings for which plans were approved during September, £9,093,800, shows an increase of 0.8 per cent. over the £9,018,300 of September, 1936.

This is highly gratifying, as showing a return of confidence. At the same time it is as incautious to build too much upon these figures as it is unwise to foretell a heavy drop in constructional activity from the low figures of the past few months. Conditions at the present time are unsettled, and the monthly index is likely to be mercurial until materials prices and exceptional demand for certain types of labour subside. There can be no doubt that these factors have been responsible for a hardening of building prices, which has been estimated at between 10 and 15 per cent. This, in turn, has not encouraged private constructional enterprise nor, indeed, municipal building other than that strictly necessary.

As the rearmament building programme progresses to a close, so should these disturbing factors ease, and an increasing volume of private and municipal work become available.

We do not, therefore, agree with Sir Josiah Stamp's opinion (reported in our last issue) that "the recession of the building boom, apart from Government action, has definitely begun." We do not think it possible to argue conclusively from statistics when exceptional circumstances prevail. At the same time there is a need for some reduction in building prices, and in this an easing of the demand for certain materials will play its part.

LONDON REGIONAL PLANNING.

WE are glad to note that the Conference on London Regional Planning (a body representative of the local authorities of London and Greater London, the Home Counties and the Rural and Urban District Councils' Association), set up to replace the Greater London Regional Planning Committee which came to an end last year, has had its first meeting, at which the Minister of Health presided. The future development of the greatest city in the world, as Sir Kingsley Wood pointed out, is one of the most difficult tasks of local government, and when, as in the case of London, control is in the hands of 127 independent planning authorities, there is little hope of success without a great deal of sympathetic co-operation under the ægis of some supreme co-ordinating and directing authority, such as the new Conference. We trust that its labours may bear the fruit that they should undoubtedly deserve.

NOTES AND NEWS

The Liverpool Architectural Society: Award of Bronze Medal.

THE Mersey Tunnel ventilating building at Woodside, Birkenhead, has been selected as the building of most exceptional merit erected in the Liverpool area within the five years ending in December last. The architect of the building, Mr. Herbert J. Rowse, F.R.I.B.A., has accordingly been awarded the architecture medal in bronze, offered by the Royal Institute of British Architects. The competition was open to all members of the Liverpool Architectural Society.

Mr. Rowse was born in 1887. He was trained at the Liverpool School of Architecture, and in his final year there, in 1908, he won the Holt Travelling Scholarship. He studied in Italy and America, and after a period of war service, began practice in Liverpool in 1918. Since then he has been responsible for many notable buildings, and has recently been appointed to design certain pavilions for the Empire Exhibition to be held at Glasgow next year. Another recent commission is for the Pharmaceutical Society's new headquarters in London, a perspective of which is on page 722.

South-Eastern Society of Architects' Year Book.

UNDER the title of "Architecture in Kent, Surrey and Sussex," the South-Eastern Society of Architects has issued its Year Book for 1937-38. Attractively arranged and well produced, it gives full particulars of the Society and its work under four headings: I—The Affairs of the Society; II—Public Relations; III—Architectural Education; and IV—Membership. Mr. Percy Thomas, P.-P.R.I.B.A., contributes a "Foreword," in the course of which he points out that the South-Eastern Society is one of the youngest of the Allied Societies, but at the same time "one of the largest in point of numbers and one of the most active in a large variety of fields." Mr. John L. Denman, the President, contributes an interesting annual report, in the course of which he pays a tribute to the late Mr. Goulburn Lovell (founder and past president of the Society), whose memory it is hoped to perpetuate by founding a "Lovell Scholarship."

Features are included that give the Year Book a special interest to the layman; such, for example, as the articles on "The Architect and the Public," "Architecture and the Countryside," "Advisory Panels of Architects," and "The Meaning of the Registration Act"; while several articles by educational experts are of considerable value to students. The book concludes with a list of officers of the Society and its members. Several excellent illustrations of architectural interest are given, including the sensitive pencil drawing of Guildford, by Mr. Harold Falkner, F.R.I.B.A., reproduced on this page. A special word of appreciation must be given to the design of the cover, which is by Mr. Leslie R. Parrett, of Farnham School of Art. Mr. Maxwell Aylwin, F.R.I.B.A., the Hon. Editor, is to be congratulated on the production of a Year Book of uncommon value and interest.

GUILDFORD HIGH STREET.

This pencil sketch, by Mr. Harold Falkner, F.R.I.B.A., is from the Year Book of the South-Eastern Society of Architects, reviewed on this page.

R.A. Exhibition of 17th-Century European Art.

THE Exhibition of European Art of the 17th century which is to be held at the Royal Academy this winter will open on January 3. It will be the first winter exhibition organised by the Royal Academy to be devoted exclusively to one particular historic period. Representative works will include not only paintings, drawings and sculpture, but also tapestries, furniture and other examples of the domestic arts of England, France, the Netherlands. Spain, Italy, and Germany.

The main bulk of the exhibition will be drawn from British sources. The tradition of patronage founded by Charles I. and continued by the judgment and enthusiasm of British collectors of the 17th and 18th centuries, has provided this country with private collections of unrivalled masterpieces of the period. The works of artists of such profound and far-reaching influence as Rembrandt, Franz Hals, Vermeer, and the Dutch genre painters; the Flemish painters Rubens and Van Dyck; Velasquez, Murillo and El Greco in Spain; Claude and Nicholas Poussin in France; the Italians Salvator Rosa and Guido Reni; and in England Lely, Kneller and Dobson will be represented, together with examples by many other famous masters.

When possible the works of each country will be grouped together with their contemporary furniture, tapestries and accessories, so that the character and development of art in the respective nations may be clearly shown. His Majesty the King has consented to lend important works of the period from Windsor Castle and Buckingham Palace. Many art treasures in private ownership to which the public have hitherto had no access will be on view for the first time, revealing the richness of private collections throughout the country.

The Antique Dealers' Fair.

THE Antique Dealers' Fair closed on Friday, October 15, after a most successful three weeks. This may have been due in part to the patronage of Queen Mary, who took the keenest interest in the Fair, and herself made numerous purchases; but it is also evident that "antiques" are in public favour, as is shown by the sale-rooms, and the important silver sale at Sotheby's now due. At Grosvenor House, we are told, 22,000 visitors passed the turnstiles at the rate of 1,000 a day; and that more than £21,000 will be available for division between Westminster Hospital rebuilding and the Antique Dealers' Benevolent Fund.

An A.A.S.T.A. Essay Competition.

AN open Essay Competition is shortly to be held by the Association of Architects, Surveyors and Technical Assistants, on "The Future and the Architectural Assis-

tant." The purpose of the competition is to obtain as broad a consensus of opinion as possible from assistants and students on their prospects for the future in the architectural profession. It will be open to any assistant in an architectural office or any student taking an architectural course of training. Prizes of £20, £10 and £5 are offered. Professor C. H. Reilly, O.B.E., F.R.I.B.A., Mr. H. de C. Hastings, and Mr. F. J. Maynard, A.R.I.B.A., President of the A.A.S.T.A., will act as assessors.

The A.A. School of Architecture.

This session the A.A. School has opened with a record number of students, and the school staff has been strengthened by the addition of Mr. R. Gardner Medwin, one of the winners of the competition for the new satellite town at Kincorth. Mr. Medwin was a holder of the Commonwealth Scholarship to America, whereby young English architects spend six months at an American University School of Architecture.

One of the three Archibald Dawnay Scholarships for 1937-38 has been awarded to Mr. R. D. Hammett. The scholarships are intended to foster the advancement of the study of construction, and are awarded for the best construction drawings submitted for the first three years' work of the course.

Housing Progress in the North-East Special Area.

Sir Kingsley Wood, speaking at Newcastle-upon-Tyne recently, said housing problems in that area were of special difficulty. Much had been done, but there was still a great deal to be achieved to ensure that the amount of housing accommodation was adequate for the needs of the population. In England and Wales, for instance, on the average the proportion of overcrowded houses was in accordance with the present statutory definition something under 4 per cent.; in the North-Eastern Special Area the figure for unfit houses was about twice the average, and the figure for overcrowding was about three times the average. The number of unfit houses to be dealt with in the first programme to be put in hand was about 30,000, of which 20,000 were in the towns and 9,000 in the rural districts. Much progress had been made. Since April, 1930, about 20,000 houses had been dealt with in resolutions declaring clearance areas, 18,000 houses had been included in clearance orders and compulsory purchase orders, and 16,000 had been included in orders which had been confirmed. The number of new houses approved during the same period was 19,000, and of these 14,000 had already been completed. The local authorities could well be congratulated on this considerable achievement.

There was still much to be done, and the task was substantially increased by overcrowding in the area. The North-Eastern Housing Association had already considerably assisted a number of local authorities in the area and had been a big relief to local authorities who had many calls on the funds at their disposal.

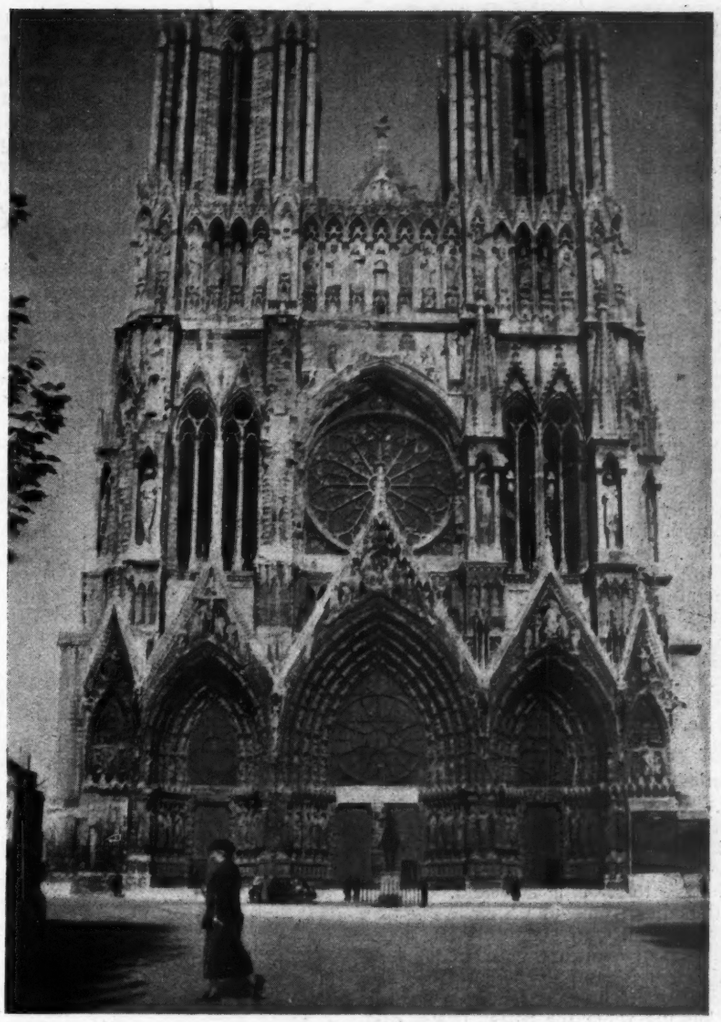
Tavistock Clinic.

With regard to the illustration published on page 576 of our issue for October 1, we are asked to state that this should have been described as the "Tavistock Clinic (Institute of Medical Psychology)." Very briefly, the building (of which Mr. Graham Dawbarn, M.A., F.R.I.B.A., is the architect) is intended to include the following accommodation:—

Out-patients' departments for adults and children: 55 treatment rooms, waiting-rooms, playrooms, and rooms for diagnostic physicians.

In-patients' department: Hostel for 21 beds, with staff rooms, recreational rooms, etc., 80 patients' beds, quarters for R.M.O., nurses and domestic staff.

Refectories, patients' library, pathological laboratory: dental room, etc., and accommodation for research workers. Lecture rooms for a total of 372, students' common-room and library: offices for administrative staff, medical directorate, secretarial staff and social workers.



RHEIMS RESTORED.

The restoration of Rheims Cathedral, after the damage done during the War, is now completed. Editorial comment is on page 719.

Middlesbrough's Education Architect: An Appointment.

Mr. Frank Mellor, A.R.I.B.A., assistant architect to the Huddersfield Corporation, has been appointed architect to the Middlesbrough Education Committee. Mr. Mellor, who is 31, succeeds Mr. P. B. Haswell, A.R.I.B.A., who recently received a similar appointment at Leeds.

An Architect's Estate.

Mr. Sydney Decimus Kitson, F.R.I.B.A., of Thornbury House, Kidlington, Oxfordshire, half-brother of the first Lord Airedale, left (net personalty, £24,729) £24,967.

Professional Announcements.

Mr. Edgar S. Underwood, F.R.I.B.A., has removed to 26, King-street, Cheapside, E.C.2.

It is announced that Mr. H. W. Ford, F.R.I.B.A., is retiring from his post of Surveyor to the United Synagogue after sixteen years' service in that capacity. Mr. Ford is continuing in private practice as an architect and surveyor at his present address, 11, Old Queen-street, S.W.1.

The duties hitherto allocated by the Council of the United Synagogue to an external surveyor will, from November 1, be linked with the general work of the Property Department of the United Synagogue at Woburn House, Upper Woburn-place, W.C.1. From the same date, Mr. A. E. Berger, F.S.I., will be appointed to take general charge, with the title of "Superintendent of the Property Department." He will be assisted by Mr. Frank Weston, A.F.A.S.

The Control of Shop Signs.

As the result of representations from the Metropolitan Boroughs Standing Joint Committee to the Ministry of Transport urging the importance of highway authorities being given power to control the colour of illuminated signs in proximity to traffic lights or along main roads, the matter is to be discussed by borough engineers with officials of the Ministry.

CORRESPONDENCE

Reconditioning Country Cottages.

SIR,—Please allow me to assure Mr. Arthur Welford, whose letter appeared in your issue for October 1, that I was writing under the above heading in my capacity as agent of an estate and not of a supply company.

By "overhead" I was not referring to the "grid" system, but to cables carried on poles similar to telegraph poles, and, although few will deny that even this method spoils the amenities of the countryside, it has to be recognised that to make electric current available to outlying villages, this use of poles and uncovered high tension cable is the only one practicable for economic reasons. At the same time we can, and should, insist that the run be kept as far as possible to the hedgerows, and when it reaches the hamlet or village, be laid underground.

A supply company will usually run underground in main and secondary roads, but the cost would be prohibitive to lay underground cables across pasture and arable land to serve a few consumers in an outlying hamlet, or a collection of farm cottages such as I had in view in my letter of September 24; and if facilities were not given to supply companies to run overhead, thousands of country people would be deprived of the benefit of electric current.

AGENT (F.S.I.).

Salaried Architects and Official Bodies.

SIR,—A matter has been coming to light recently which concerns salaried architects in a most intimate manner, inasmuch as their power of earning a living is, in certain quarters, being attacked. Certain official bodies, some of which are known to have difficulty in keeping staff, owing to their poor working conditions, have organised what can only be described as a conspiracy to prevent their assistants from leaving them for better posts, each agreeing *sub rosa* not to accept applicants from one to another.

The usual procedure is as follows: An assistant employed by "A" applies for a post with "B." After an interview, in which on several occasions the assistant has been actually offered the new post, "B" telephones "A" to ask if the latter is willing that the assistant should leave. If the reply is unfavourable, the assistant is blandly informed, with regrets, of course, that the post is, after all, not available. On certain occasions, however, "B" has been cynical enough to tell the truth; this is, of course, how the matter is gradually attaining healthy publicity.

There is no question as to the existence of this conspiracy, which is a scandalous interference with the ordinary civil liberty of the individual. I have had personal experience of it; I know personally several men who have come in contact with it; the A.A.S.T.A. have had cases to deal with; questions have even been asked in Parliament about it.

The individual is helpless against this kind of thing. Wide publicity will probably check it; conspirators notoriously dislike being found out. But it should be dealt with for what it is as a matter of principle, and definitely stopped. The A.A.S.T.A. is doing its best; the Institute of Registered Architects might usefully interest itself; but what about the R.I.B.A.?

It is generally reckoned that 60-70 per cent. of the members of the R.I.B.A. are in salaried posts, mostly official. The R.I.B.A. is the senior architectural body and carries more weight than all the rest together. Its members are entitled to its support. Is it too much to expect that the council should abandon its erstwhile policy of ignoring the majority of its members, face up to the reality of present-day conditions, and make a start by taking up vigorously this surely very important matter?

R. D. MANNING.

Welwyn Garden City.

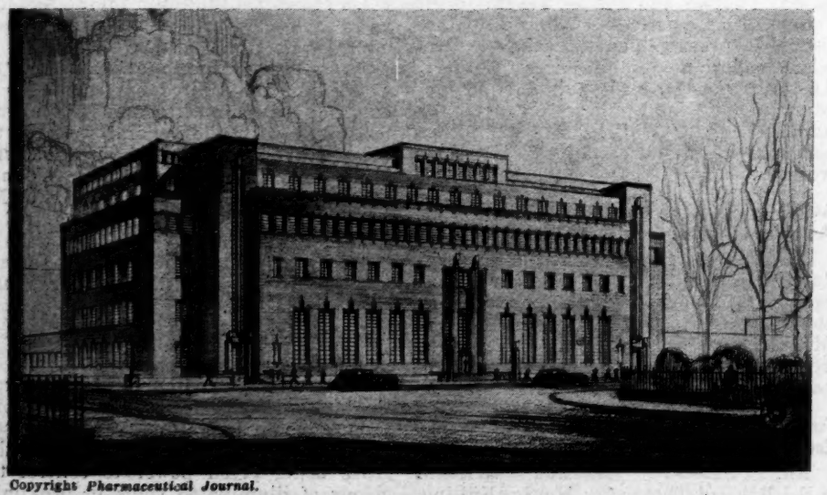
Doorways and Invalid Chairs.

SIR,—In consequence of having to use an invalid's wheel-chair, I have just had the experience of giving much trouble to the management of a first-class hotel and of permitting a very accommodating visitor to be so kind as to change rooms with me, owing to the door to a private bathroom being half an inch too narrow. May I suggest that architects concerned with the design of hotels and flats should take into account the width of invalid chairs when measuring for bathroom doors, etc. I am assured by a friend, who spends a good deal of time in large hotels, that there are seldom fewer than four or five wheel-chairs present—a number quite sufficient to warrant the provision of an extra inch to the subsidiary doorways.

DISABLED OFFICER.

Measuring and Predetermining Daylight Illumination.

Correspondence on this subject will be found on pages 744-745.



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NEW HEADQUARTERS FOR THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.

These new premises are proposed, at a cost of £200,000, in Brunswick Square, W.C. Plans, by Mr. Herbert J. Rowse, F.R.I.B.A., have been approved by the London County Council.

R.I.B.A. NEWS

THE LIBRARY CATALOGUE.—The first volume of the R.I.B.A. Library Catalogue is to be published in November. This immense work, on which the Library staff have been engaged for some years, has been made possible by the munificence of Sir Banister Fletcher. Sir Banister's gift will enable the volume to be sold to members at one guinea, and to non-members at two guineas, both prices that are greatly below production cost. The first volume contains the author index of 30,000 entries; the second will consist of the subject index. The catalogue will extend knowledge and use of the library, and it will be particularly valuable to members living at a distance from the R.I.B.A. The regular publication in the *Journal* of the Library Accession List will in future allow members to keep the catalogue up to date.

THE INAUGURAL ADDRESS.—On Monday, November 1, at 8 p.m., the President, Mr. H. S. Goodhart-Rendel, will deliver his Inaugural Address. At the same meeting the London Architecture Bronze Medal for 1936 will be presented to Messrs. Stanley Hall, Easton and Robertson, and the presidential portrait of Mr. Percy Thomas will be unveiled by Mr. Harold Knight.

DRAWINGS BY BARRY AND PUGIN.—Some hitherto unpublished original drawings by Sir Charles Barry and Pugin, of the Houses of Parliament, will be on view at the inaugural meeting. The architectural practice of Sir Charles Barry has continued in unbroken succession, through the hands of two successive Charles Barrys, to Sir Charles' great grandson, Mr. A. R. Barry, A.R.I.B.A. These drawings have remained in the firm's office until the present day.

UNIVERSITY EXTENSION LECTURES.—The interesting series of University Extension Lectures on "Architecture: Its Place in Human Society," which is being given on Tuesday evenings, at the R.I.B.A., by Mr. Basil R. Ward, A.R.I.B.A., is drawing a regular audience that is as much professional as lay. The fifth of the ten lectures, entitled "The Part Religion has Played," will be delivered on November 2, at 6.30 p.m. Admission is 1s. 6d.

R.I.B.A. EXHIBITIONS.—The "Modern Schools" Exhibition had a most successful send-off from London on its provincial tour. Unofficial comment from Whitehall was congratulatory. Press notices were unusually numerous for a small exhibition, and without exception laudatory. The B.B.C. noted it in their News Bulletin, and got Mr. John Gloag to broadcast on it. The B.B.C. Television Section also "produced" Mr. R. A. Duncan, Chairman of the sub-committee responsible for the Exhibition, on the television screens of London, in a short talk, illustrated by two models from the Exhibition. Members of the R.I.B.A. are also realising that these exhibitions, though primarily intended for the general public, have a very considerable technical interest. Realising this, the Exhibition Sub-Committee got Mr. H. W. Burchett, Chief Assistant Architect for Schools to the Middlesex County Council, to give an informal talk on the Planning of Schools. [This is reported on page 742.] The Exhibition is to open at the Central Museum Hall, Hull, on November 1. Also on the same date, November 1, the Civic Centres Exhibition is to open at Kidderminster. Last year R.I.B.A. exhibitions attracted a total attendance of 182,000.

COMPETITION NEWS.

This will be found on page 745.

DESIGN DETAILS

By "DOMUS."

5.—WINDOWS.

It has been well said that architecture is the "history of a people told in stone." Window design certainly bears out the truth of this statement. In its evolution from early times the window has increased in size because of a gradually lessening fear of invasion. In early times an Englishman's home *was* his castle, and the likelihood of attack by an enemy was his constant concern. Gradually the home became less fortified, and windows, instead of being narrow, unglazed slits in thick stone walls, assumed larger proportions, until in the fifteenth century the very walls themselves were almost "traceries of glass" in large parish churches and cathedrals. In houses, however, many years were to pass before large window areas were at all popular. Superstitions and the window tax were to some extent responsible. There were no present-day by-laws compelling an architect to provide a window area equalling one-tenth the floor area of a room, and no laws to set the lintel height of a window in relation to the ceiling. Unlike the aim to-day to place windows to admit sunlight, in old times it was often rigidly excluded on superstitious grounds. That is why so many old cottages have few south or east windows.

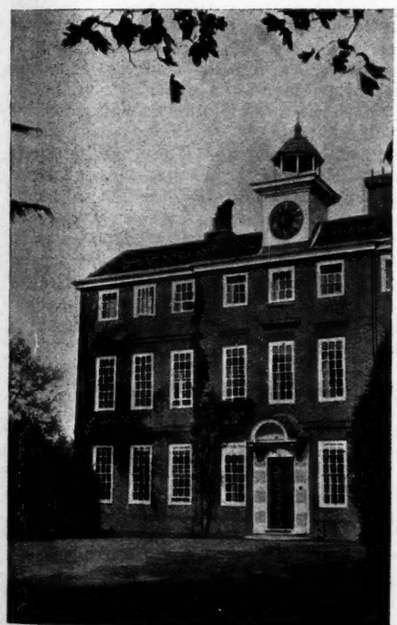


FIG. 1.

In all the historical styles, window-design has echoed the qualities found in building, but other important factors have governed their design, too. Examination shows that the materials used for, and the construction of, windows have largely affected them. For instance, stone-mullioned examples have to be governed by the stone used in their construction. Their mullions have to be a certain size in relation to their unsupported length, and the amount of tracery has to bear some relation to the arched opening to be so filled. In the same way constructional and practical factors govern the design of double-hung sash windows: their glazing bars must be strong enough to brace the sashes, and the width and height of the sashes cannot exceed certain sizes or these will be too

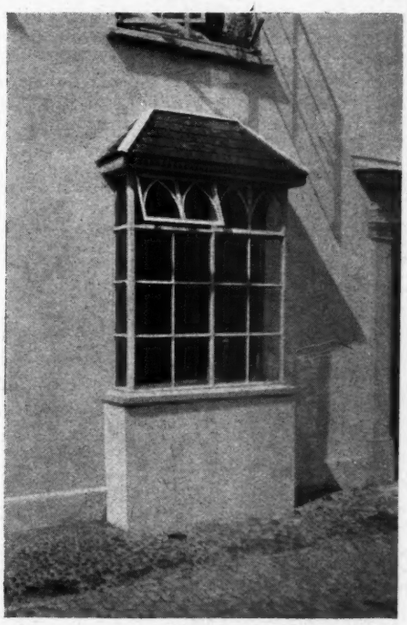


FIG. 2.

heavy to be usable. Similarly, the casements in a window cannot be too large or they will be too heavy for their hinges and dangerous when open in gusty weather.

Another factor governing window design has, of course, been that, until the end of the eighteenth century, large sheets of glass were very costly and difficult to obtain. It is interesting to notice how the Georgian pane sizes increased towards 1800, and how during the Victorian period the large pane was generally employed. Most of the windows on the "Wren" façade at Hampton Court are glazed with smallish panes held within thick glazing

FIG. 3.

bars typical of their period, but, for the Queen's room centrally on this great façade, very much larger panes were used. Doubtless, like large mirrors, these panes alone cost an immense sum and were only possible for Royalty in the late seventeenth century.

Since windows play such a large part in architectural composition, the designer is as much concerned with their spacing and rhythmic (or other) placing in a façade, as with the beauty of their detailing and the scale they shall bear to the whole composition. Fig. 1 gives a striking instance of this; the façade is *made* by its windows, which create a steadily satisfying rhythm and afford a fine foil to the lovely doorway whose projecting hood gives just the right weight to create a dominant note.

If we recall so much in London, her "squares" (particularly Bedford-square, which so far remains intact), modest streets in Chelsea and streets near Russell-square, we find over and over again admirable architecture which consists of the rhythmic placing of similar windows and little else. Another quality which makes the façade in Fig. 1 very happy is the white-painted glazing bars. These stand out against the dark tones on the glass, and, by being light, prevent the whole glazed area looking as one

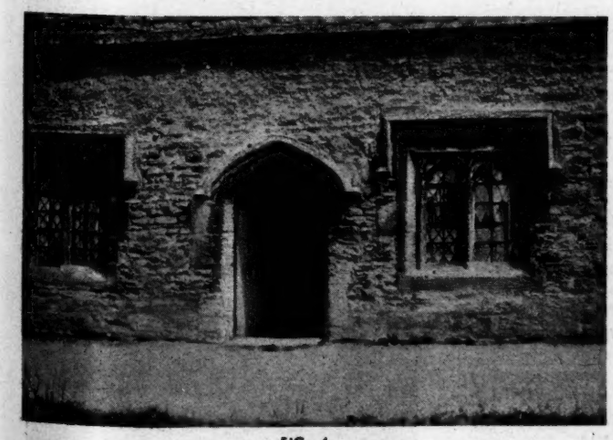


FIG. 4.

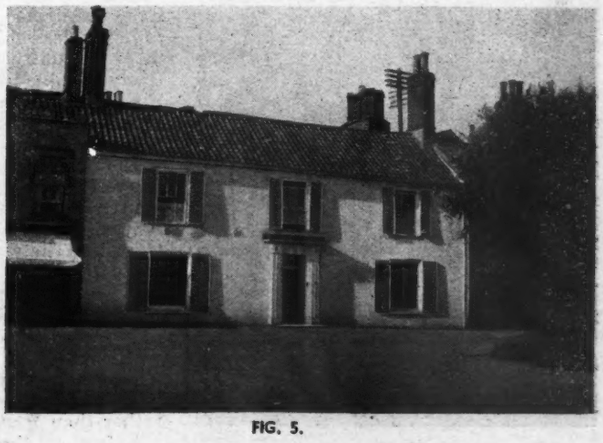


FIG. 5.

FIG. 6.

opening. The wide box frames (here used on the wall face) provide a strong surround comparable to the transition given by white plastered 4½ in. reveals, in numerous later Georgian windows. In themselves the windows are splendidly proportioned and most dignified.

Besides the nearly always pleasing proportions seen in early and late-Georgian windows, we find that the pane-proportions themselves seem singularly satisfactory. In hundreds of cases these are based on the "diagonal of a square" relation—that is, the pane height equals the diagonal of the square that would be formed by the use of the pane's width as four sides of a square. Two other points worth remembering regarding Georgian windows are (*a*) that hundreds of them are 3 ft. 9 in. wide (between brick reveals), and (*b*) that late-Georgian glazing bars average out at 1 in. wide; early ones stand up a full 1¼ in.

By contrast with Fig. 1, Fig. 2 shows most of the faults to be found in the detailing of a bay window. There should be a harmony between its three main parts, namely, the head, the window itself and the walling below sill level.

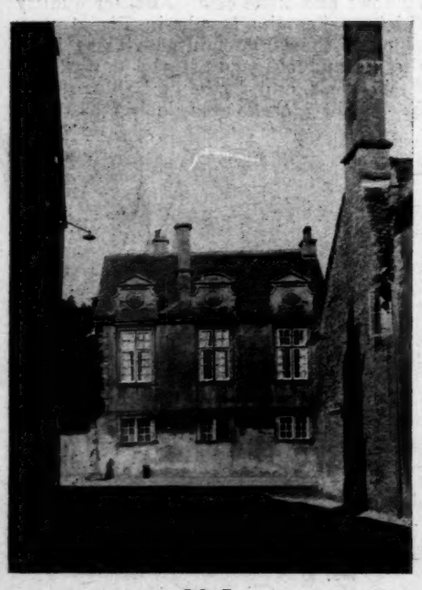


FIG. 7.

Fig. 3 shows a really good bay window which at once seems satisfactory. It is pleasing in its main proportions and refined in detail. The large expanse of brickwork below its sill level stabilises the whole composition, and, in area, dominates the window itself. The cornice echoes the material in the window and bears an excellent size-relation to it. The plan form of this bay ensures an interesting contrast value in its double-hung "lights," the side ones being a little more than a quarter the width of the panes of the front one.

Apart from the characteristics seen in windows since 1500, their close affinity with doorways of the periods provides us with architectural information worth remembering. The example shown by Fig. 4, from the almshouses at Burford, Oxfordshire, seems at once "right" alongside the doorway it adjoins. Likewise, the Georgian wooden-cased doorway in Fig. 9 seems complementary to the typical early Georgian domestic double-hung sash window pictured in this illustration. This example is at Wareham, Dorset.

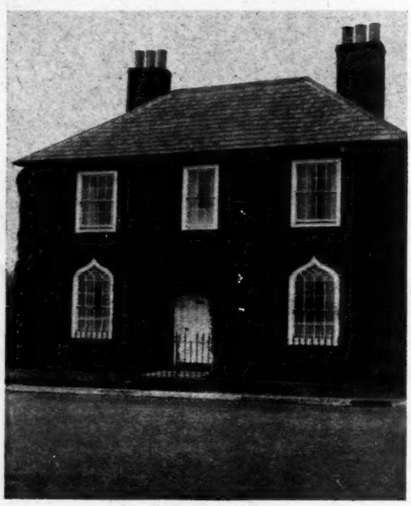


FIG. 8.

In the Renaissance period, windows like that in Fig. 6 were quite general. Here the strong framing formed by the stone rustication dominates the design so well that the detail of the wooden window and its glazing takes second place. In this example the earlier sashes have been replaced by Victorian plate-glass ones, and although the scale of the design has been altered, the result here is not so bad as it would have been had the window itself been in ordinary brick walling. It would seem that as a guiding factor for window design, then, if the sashes (or casements) themselves are in large unrelieved panes, some sort of surround is desirable to provide interest and to give quality to the whole. Alternatively, double-hung sashes like those in Fig. 1 are in themselves full of interest and scale; hence they fall into façade design easily and well.

Another very satisfactory way of giving interest to window design is by using shutters. These, like the strong frame around the window in Fig. 6, serve as a transition between the glazing and the façade walling. In many contemporary façades using metal casements, shutters undoubtedly aid window design. It is, however, a little odd that architects do not often use the *inward* opening metal windows in such cases, since their use would seem to make the shutters logical rather than mere ornaments.

A few of the many varied qualities

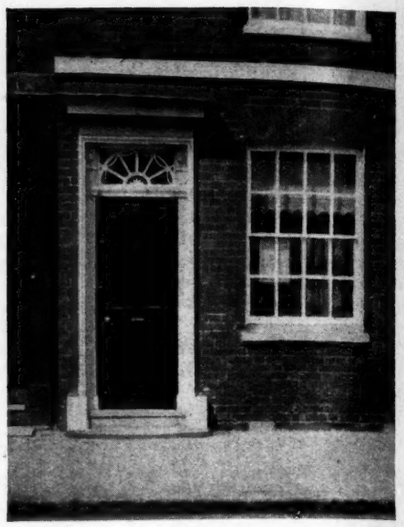


FIG. 9.

which windows alone give to façade-design are seen in Figs. 5, 7, 8 and 10. The first is a Renaissance façade in Burford, Oxfordshire. The excellent size-relation between the two types of window here used affords an arresting contrast in a design of very real quality. The ogee Georgian windows are a feature of the façade in Fig. 8. The roof here spoils an otherwise excellent design. This is at a most ugly pitch, and would be better masked by a parapet, which would also provide better "weight" over the three first-floor windows. Fine breadth is a quality seen in Fig. 5, a restrained façade in a Norfolk village.

The horizontal windows in Fig. 10 show but one instance of windows on a contemporary building. They are here used to lead the eye to the vertical tower (which is a dominant element), although in themselves they have many practical advantages for offices and houses. In themselves they are of narrow metal sections, and as here used seem far more right than when employed in small various-sized units as spots upon a façade. In this admirable design we find a parallel to the "period" façade in Fig. 1. In spite of their apparently wide differences, each in its way has the same qualities, if only because both use a "repeat" window strongly and well.

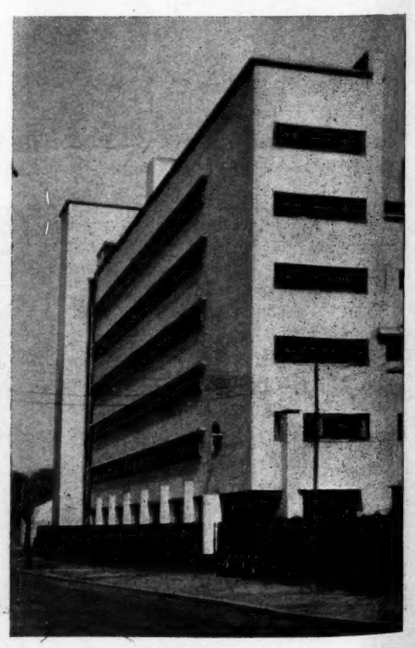
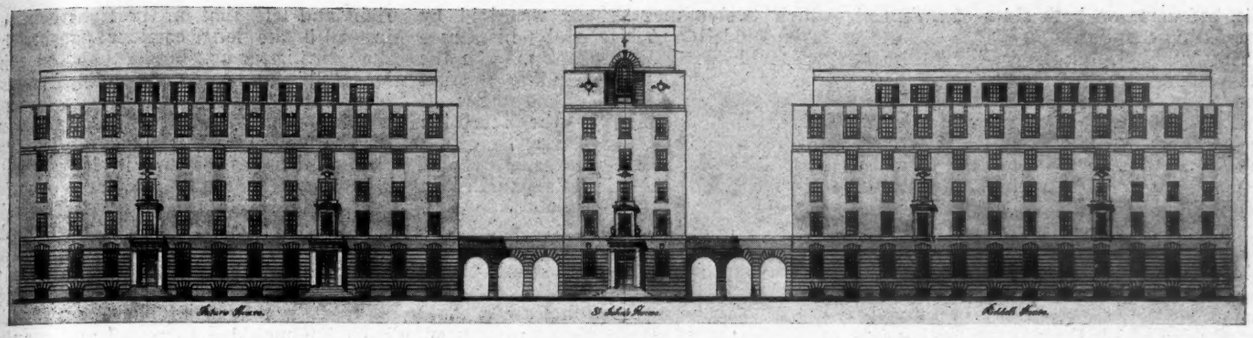


FIG. 10.



ELEVATIONS OF (LEFT TO RIGHT) FUTURE HOUSE, ST. JOHN'S HOUSE AND RIDDELL HOUSE.

RIDDELL HOUSE: NURSES' HOMES, ST. THOMAS'S HOSPITAL.

SIR EDWIN COOPER, R.A., ARCHITECT.

A NEW building in connection with St. Thomas's Hospital, but on the opposite side of Lambeth Palace-road, now graces that street. It comprises a nurses' home and training school, the provision of which has been made possible by the generosity of Lady Riddell, who has chosen these means of perpetuating the memory of the late Lord Riddell. The building was opened by Queen Mary on October 14.

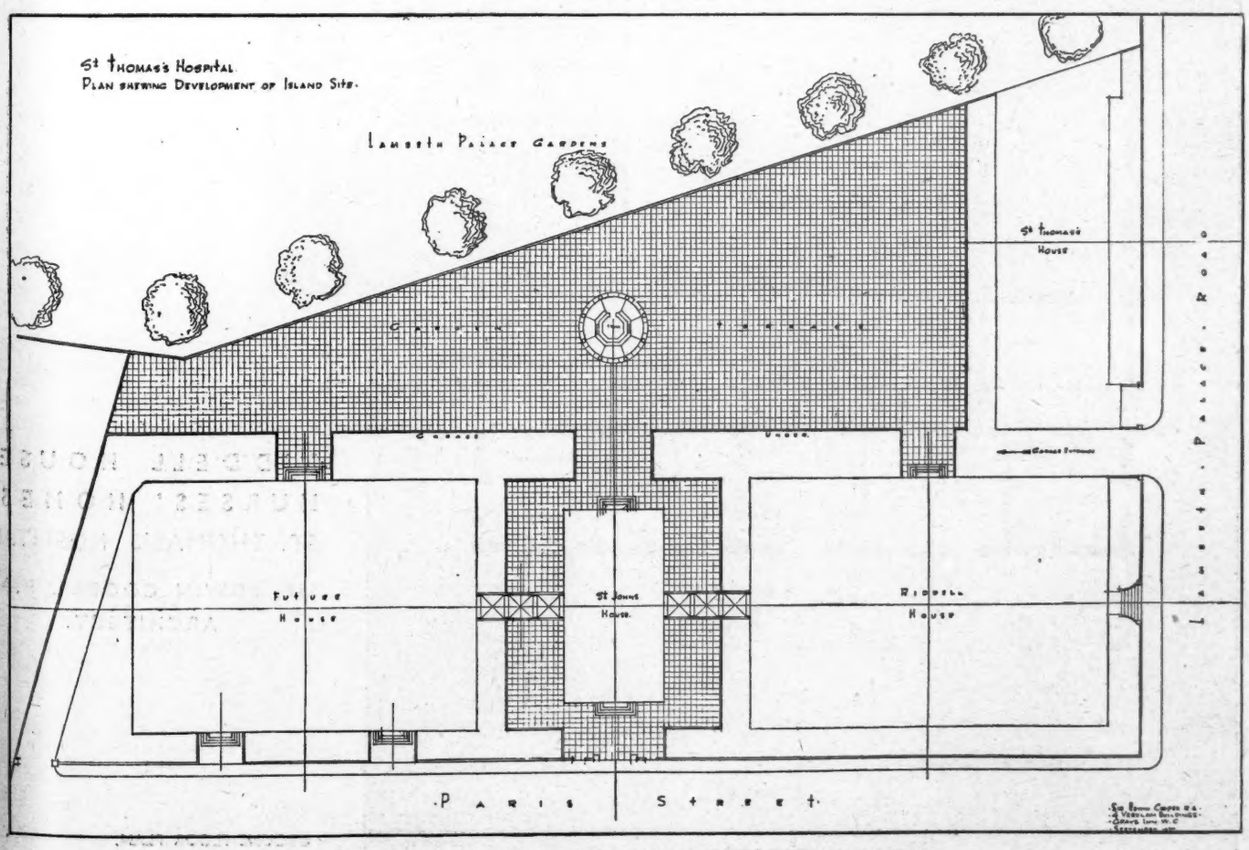
In choosing Sir Edwin Cooper, R.A., as her architect, the donor has done much to assure a successful scheme, and the building shows the good results of architect and personal client working together in enthusiasm and continued interest. This interest has concerned not only the building itself, but its furnishing and embellishment from the collections of Lady Riddell of antique furniture, prints, china and engravings, including some very choice examples. The outcome of this happy association of persons and events has been a building from which the "institutional" atmosphere is entirely absent, and which suggests a "home" in its fullest sense, and in literal fact as well as in name.

The building itself is a simple rectangular block of brick-faced and sash-window type, proportioned with wide, slightly projecting string courses in Portland stone, and punctuated at essential points of interest with stone-dressed windows, the main entrance being a dignified stone portico in scale with its façade, yet preserving the domestic feeling which has been sought. The upper storey has been recessed behind a roof promenade, giving a good architectural outline to a simple mass.

In bare terms such as these, it is difficult to convey the satisfying qualities of this fine building. It is, perhaps, more descriptive to say that this is the logical outcome of the English tradition as applied to large-scale building of to-day.

Like all good architecture, this has its basis in a clear-cut plan, and though all will recognise its simplicity, only a planner will fully appreciate the skill with which the essential requirements have been reduced to their elemental terms. The site, at the corner of Lambeth Palace-road and Paris-street, has been reduced in effect to an island site by the roadway between the new building and the students' hostel adjoining, and presents no inherent complexities, and, whereas the peculiarities of an irregular site often give opportunity for obvious ingenuity, these less restrictive conditions still demand the highest degree of skill in the production of the flawless plan, as this indeed is.

The rectangular block is planned round a central enclosed court, in which the swimming bath occurs at basement level, surrounded by various changing rooms, demonstration and service rooms. The ground floor is entirely occupied by living and reception rooms, while the upper five storeys contain the nurses' bedrooms; those on the top floor being ranged outside a circulating corridor on the courtyard side, and opening upon the roof promenade, while the lower storeys con-



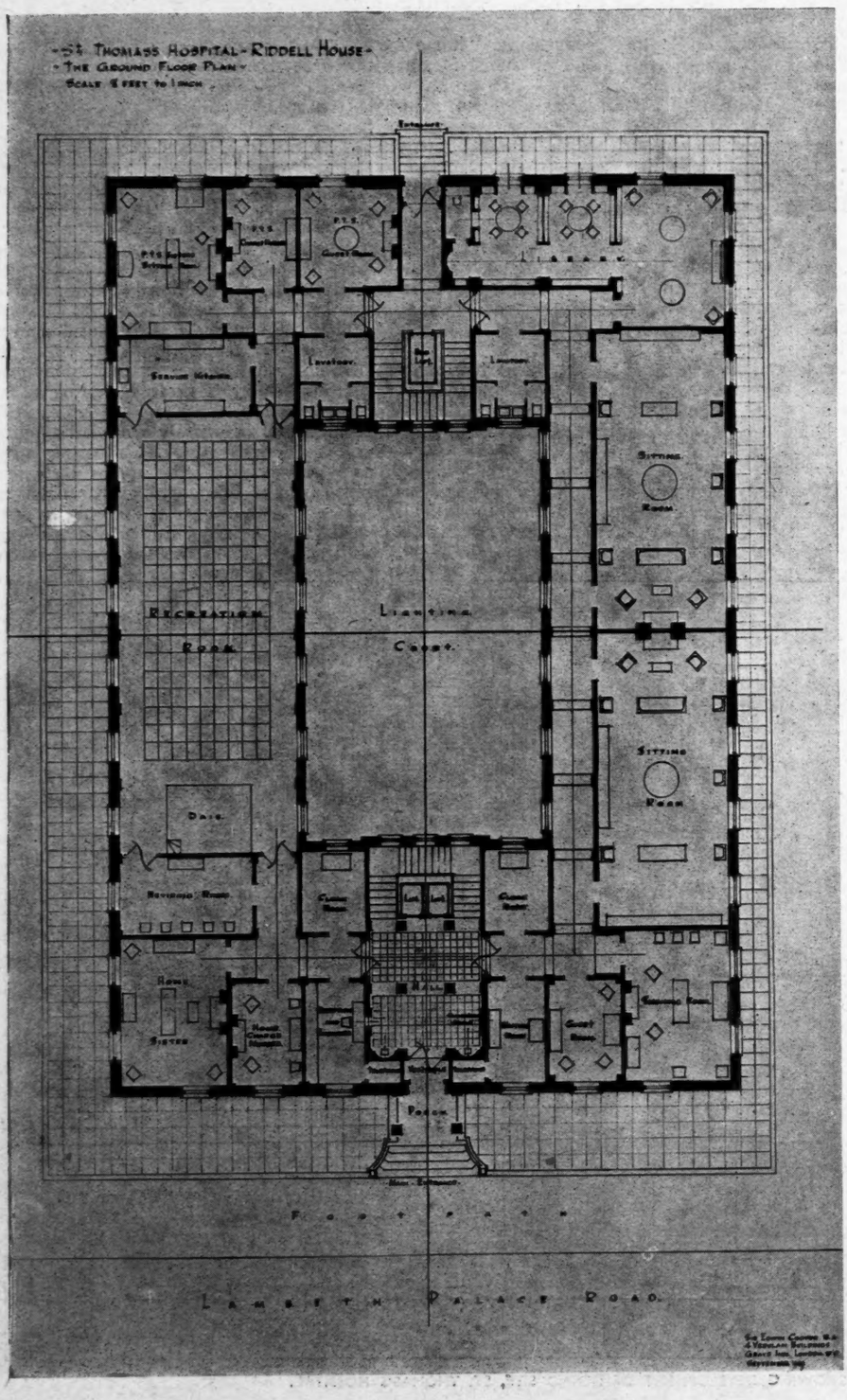
PLAN SHOWING DEVELOPMENT OF ISLAND SITE, ST. THOMAS'S HOSPITAL.

tain bedrooms on both sides of a central circulating corridor.

The main axis of the building bisects the rectangle through its greater length, and main staircases and lifts occur at either end of this axis, backing in each case upon the court. The treatment of this courtyard, in the simplest practical terms, is most successful as a result of the rhythm and balance of skilful planning. It has none of the stark "deshabille" of the average light well.

The main entrance opens into an inviting entrance hall, still on an intimate and domestic scale, but retaining the dignity for which the purpose and inception of the building call. On the right is placed the foundation-stone—a sienna marble base with an oak panel above and surmounted by the Riddell coat-of-arms—which twelve months ago was laid by Lady Riddell and blessed by his Grace the Archbishop of Canterbury. On the left, in a panel corresponding to that above the foundation-stone opposite, is an inquiry opening to the reception office, and above are the arms of St. Thomas's Hospital. [These are shown on page 717.] The hall is panelled in oak, and graced with Ionic columns in the same material, a dado and oak balustrade lining the main staircase. In niches opposite the staircase are placed busts of Florence Nightingale and Lord Riddell. In no more emphatic way could their services have been recognised. The staircase encloses two automatic lifts, the bronze grille and handrail round which are quietly decorative.

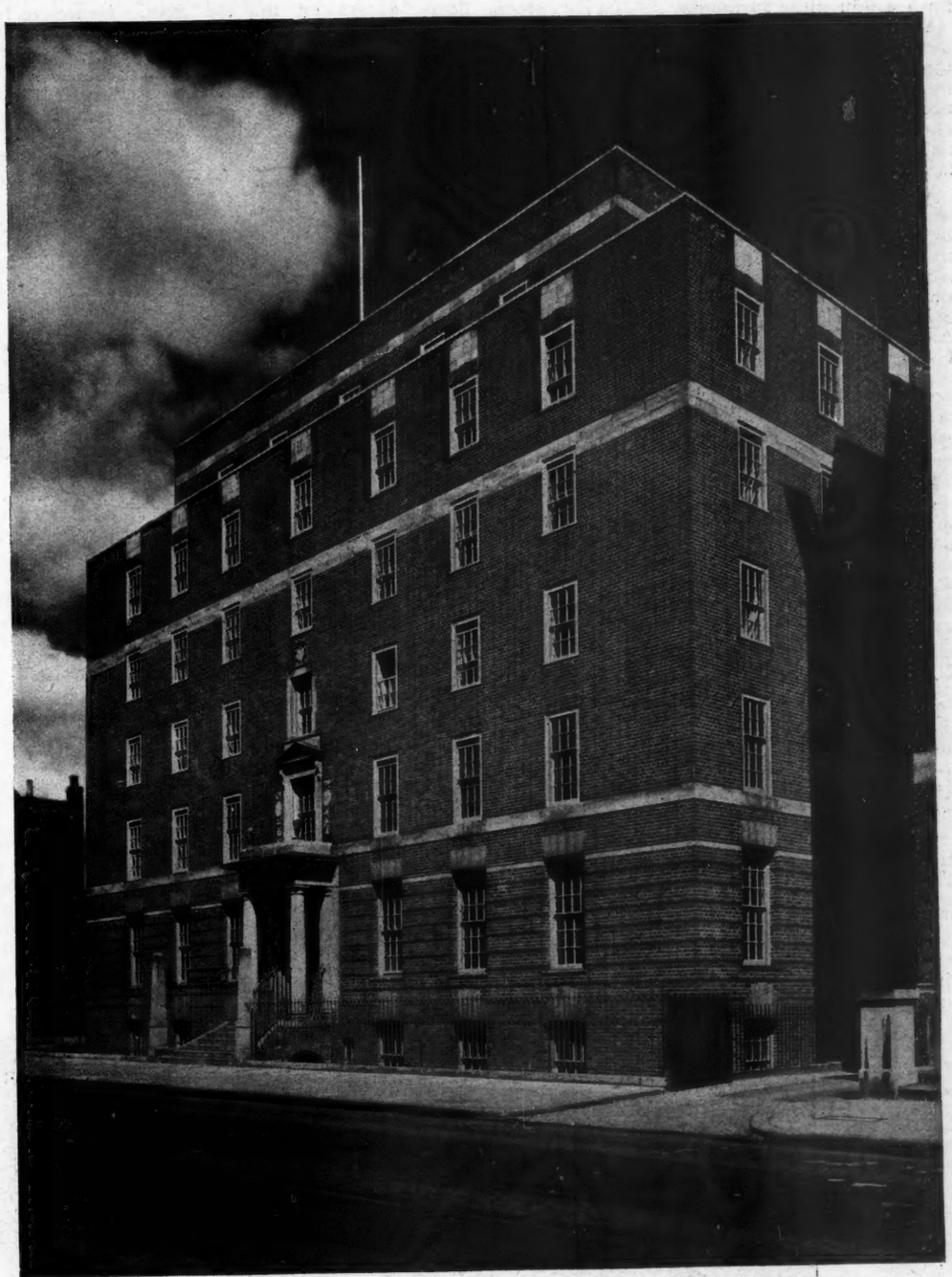
From the entrance hall run corridors, right and left, that on the right connecting with the long corridor passing by the sitting-rooms, and that on the left following a corresponding course, interrupted by the large recreation-room, which occupies the full width of the wing on the Paris-street frontage. The two sitting-rooms correspond in length with this recreation-room, and are cheerful and attractive in treatment. The ceilings have coffered margins within the lines of the constructional beam units, which thus rightly contribute interest to the treatment, and at the end of each room is a refined fireplace, with white bolection moulded surround and mantel, and with marble slips. [One of these is shown on page 718.] Walls and ceiling are white, upon which delicate detailing contributes the essential light and shade.



RIDDELL HOUSE: NURSES' HOMES, ST. THOMAS'S HOSPITAL.

SIR EDWIN COOPER, R.A. ARCHITECT.

GROUND-FLOOR PLAN.



THE FAÇADE TO LAMBETH PALACE ROAD.

RIDDELL HOUSE : NURSES' HOMES, ST. THOMAS'S HOSPITAL.

SIR EDWIN COOPER, R.A., ARCHITECT.

The floors are in oak blocks, and the doors flush within white surrounds.

With the exception of the library, most attractively panelled and fitted in pine, the remaining reception-rooms on this floor are treated similarly, though naturally on a smaller scale. These rooms include the smoking-room, bureau, sisters' sitting-rooms and reception-rooms for visitors, etc.

A future project, which is understood to be in mind, is the construction of a garden at about the level of the nurses' sitting-rooms, and within the land contained by the new building on one side, and the students' hostel and Lambeth Palace Gardens on two others, with an underground car park for hospital use. The garden is approached by the road between this building and the hostel. Such a development would add still more to the amenities of the building, and promises a spacious lay-out rare in the heart of crowded London.

The recreation-room is also most successful, and skilful detailing has been applied to the natural constructional members and units of the room, with a minimum of obvious effort. A series of modelled plaster motives relieve the plain white surfaces. At one end is a servery and at the other a retiring-room, and it is clear that this room will serve a number of essential purposes with equal efficiency.

The corridors are paved with mahogany blocks, and the floors throughout are in well-executed hardwood blocks, either in mahogany, or in Jarrah, or in Austrian oak, except the cloak-rooms, lavatories and serveries, etc., where terrazzo is used. The perfection of the hardwood floors is worthy of remark.

The cloak-rooms and lavatories occupy the four corners of the internal court, where, though in themselves amply lighted, they occupy a surprisingly small amount of the wall surface available for window space. Above these units occur the lavatories and bathrooms on the bedroom floors, except on the top floor, where the reversing of the corridor demands an alternative position.

These bedroom floors are extremely interesting, and in bare terms comprise a series of room units of 100 sup. ft. in area, one of which is allotted to each nurse's room, and two of which together provide accommodation for a sister's bed-sitting-room. Each room has a fitted wash-basin in a tiled recess, and a wardrobe with ample hanging and drawer space. In the sisters' rooms the wash-basin is enclosed behind doors, and a chest and writing bureau provided. It is evident that the furnishing of these rooms in limed oak has been most carefully thought out. The perfect kitchenette is available to these bedroom floors, equipped with all essentials for simple cooking and washing up.

The basement is more utilitarian, apart from the handsome swimming-bath, but is interesting in its quiet and well-lighted efficiency. The accommodation includes two ward-rooms, where it is proposed to set up demonstration wards for instructional purposes; a kitchen for demonstration purposes; linen and service rooms, etc.; and the filtration plant for the swimming-bath. This plant is of the most modern type, in which the returned water passes over ultra-violet ray lamps, before being delivered anew to the bath.

The swimming-bath is extremely attractive, presenting a harmonious blending of greens, around the white, green-lined tank, the piers and margin being cased in dull green terrazzo, and the walls and outlining of the bath being in a deeper glazed green tile. The ceiling is segmental, including the top lights, which make this chamber, deep in the heart of a lofty building, full of clear daylight. Diving-boards have yet to be provided, but these are arranged for.

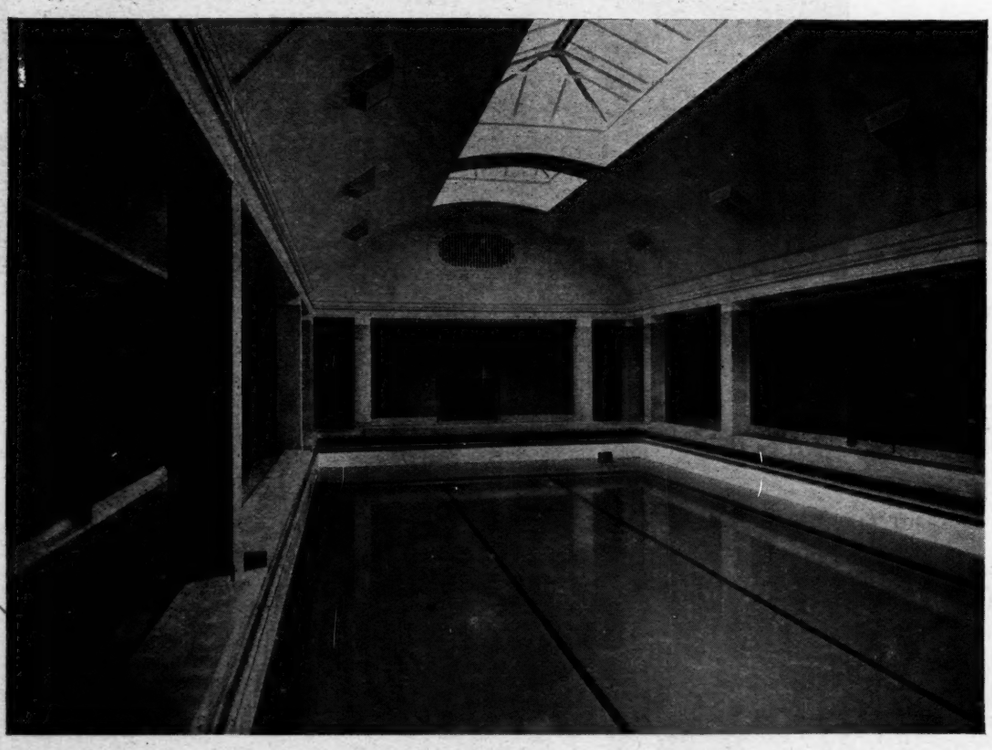
Around the bath, and under the wings of the building unoccupied by the other basement rooms, are changing-rooms for nurses and male students, with their respective lavatories and showers. That provided for the nurses is nicely divided with white screening into convenient cubicles. The male accommodation is situated in the corner of the building next the students' hostel, and can be entirely locked off from the remainder of the building, when the bath is allocated to the male students.

There are many things other than this bare catalogue of facts which attract the visitor's interest, but for the most part these are matters of thoughtful detail which, while sounding almost trivial to mention, contribute to the general effect. Everywhere there in an impression of money spent generously, but never to waste, and this surely is the meaning of true economy, whether in art or commerce.

The lay visitor will be conscious of an absence of the things which jar, and of the general effect of graceful efficiency and comfort. The architect may be more discriminating, but will find nothing which does not express the hand of the designer over great and little things. Most of all, and most important of all, those who will live in this building will feel at home, as is the right of those who have chosen a hard calling in the interests of others.

It would not be right to leave this appreciation of a building and of its architect without mention of those who have contributed to its success by wholehearted teamwork. Sir Edwin would be the first to recognise the work of his personal staff, as well as that of Messrs. Foster and Dicksee, Ltd., general contractors, and of Mr. J. Goosens, their manager on the building, and Mr. G. A. Webster, F.S.I., who was the quantity surveyor, and Mr. C. L. J. Doman, who executed the sculpture and modelling, and the sub-contractors and specialists who were responsible. G. M. A.

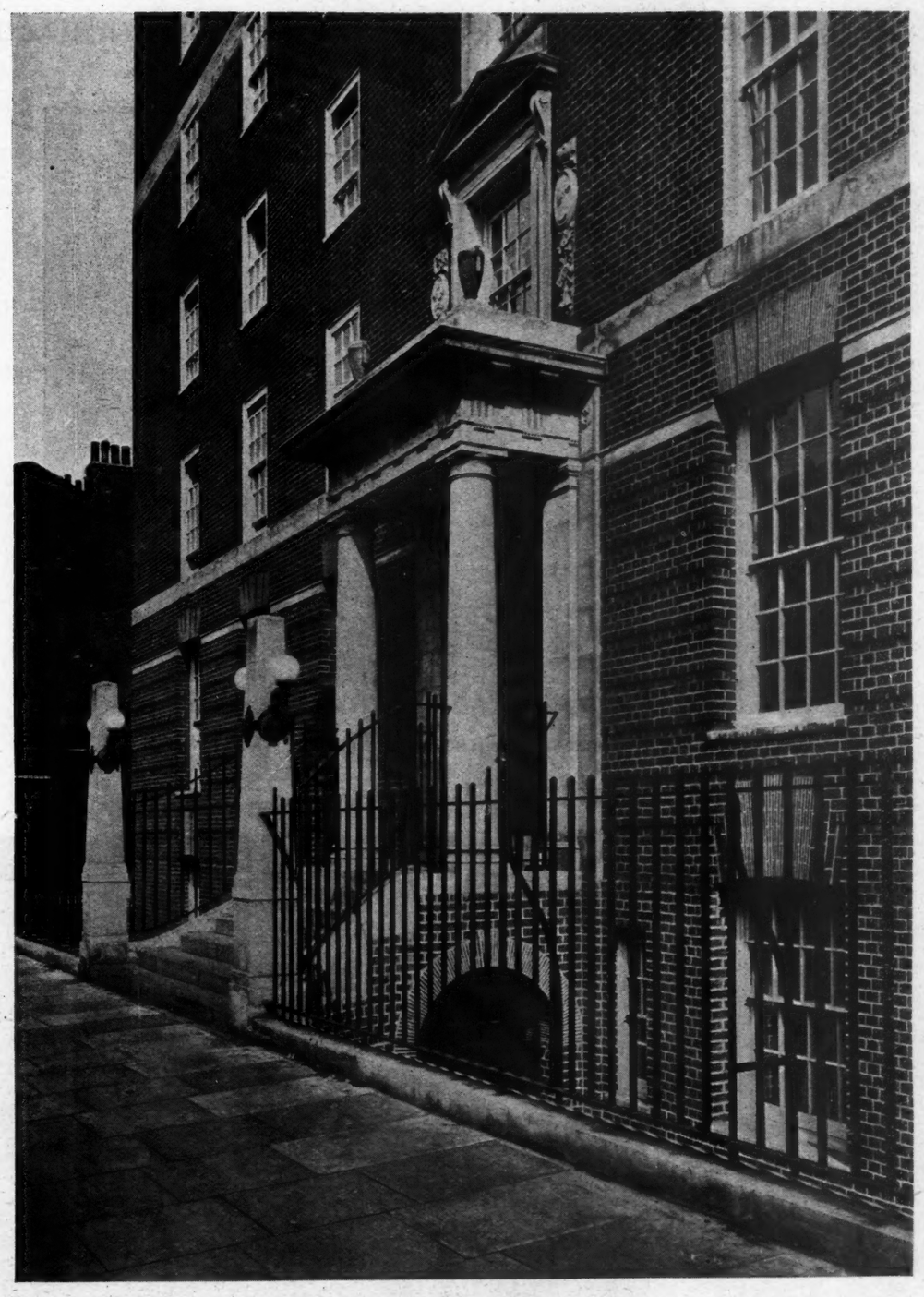
[A list of specialists engaged is on page 751.—Ed.]



THE SWIMMING BATH.

RIDDELL HOUSE : NURSES' HOMES, ST. THOMAS'S HOSPITAL.

SIR EDWIN COOPER, R.A., ARCHITECT.



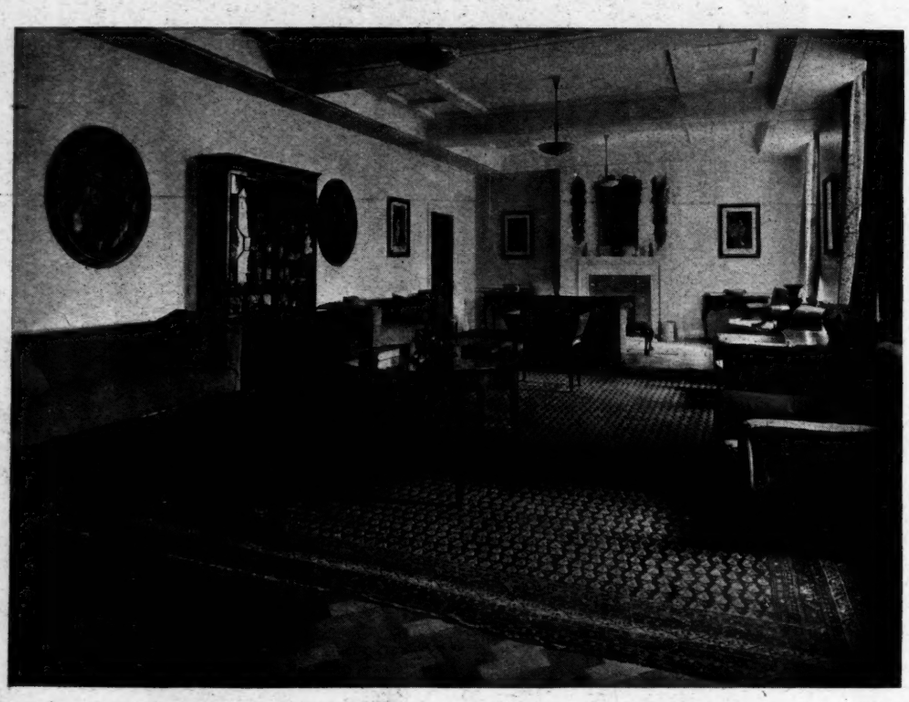
THE MAIN ENTRANCE, LAMBETH PALACE ROAD.

RIDDELL HOUSE : NURSES' HOMES, ST. THOMAS'S HOSPITAL.

SIR EDWIN COOPER, R.A., ARCHITECT.

RIDDELL HOUSE: NURSES' HOMES, ST. THOMAS'S HOSPITAL.

SIR EDWIN COOPER, R.A., ARCHITECT.



THE S.-W. SITTING-ROOM : LOOKING TOWARDS FIREPLACE.

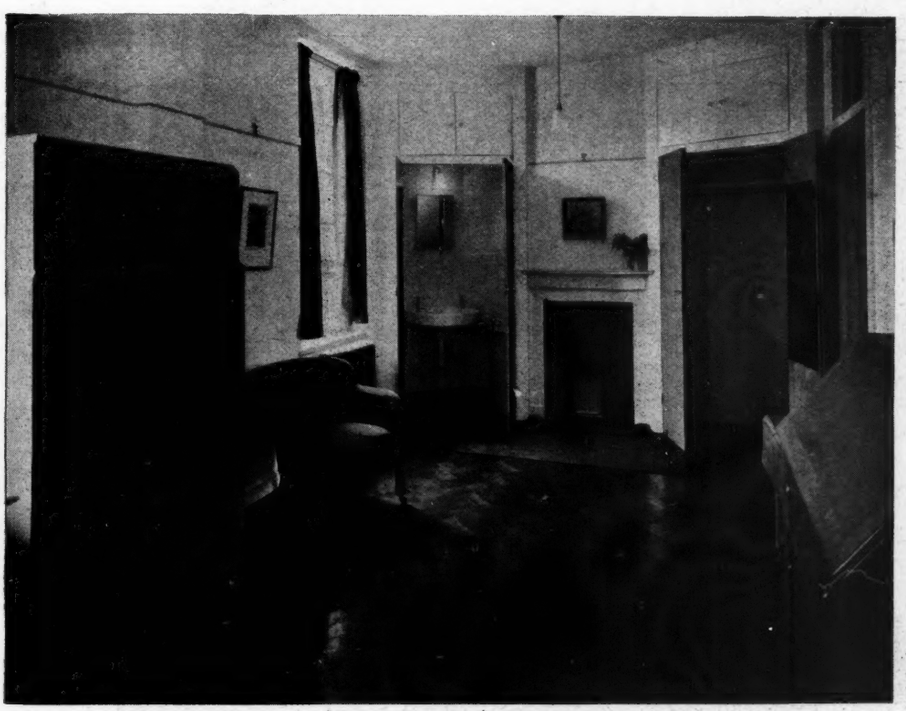
THE S.-W. SITTING-ROOM, OPPOSITE FIREPLACE.

The nurses' sitting-rooms, two in number, are shown on this and the facing pages. They are on the ground-floor, and are cheerful and attractive in treatment. The ceilings have coffered margins within the lines of the constructional beam units, and at the end of each room is a refined fireplace. One of these is shown on page 718.

RIDDELL HOUSE: NURSES' HOMES, ST. THOMAS'S HOSPITAL.

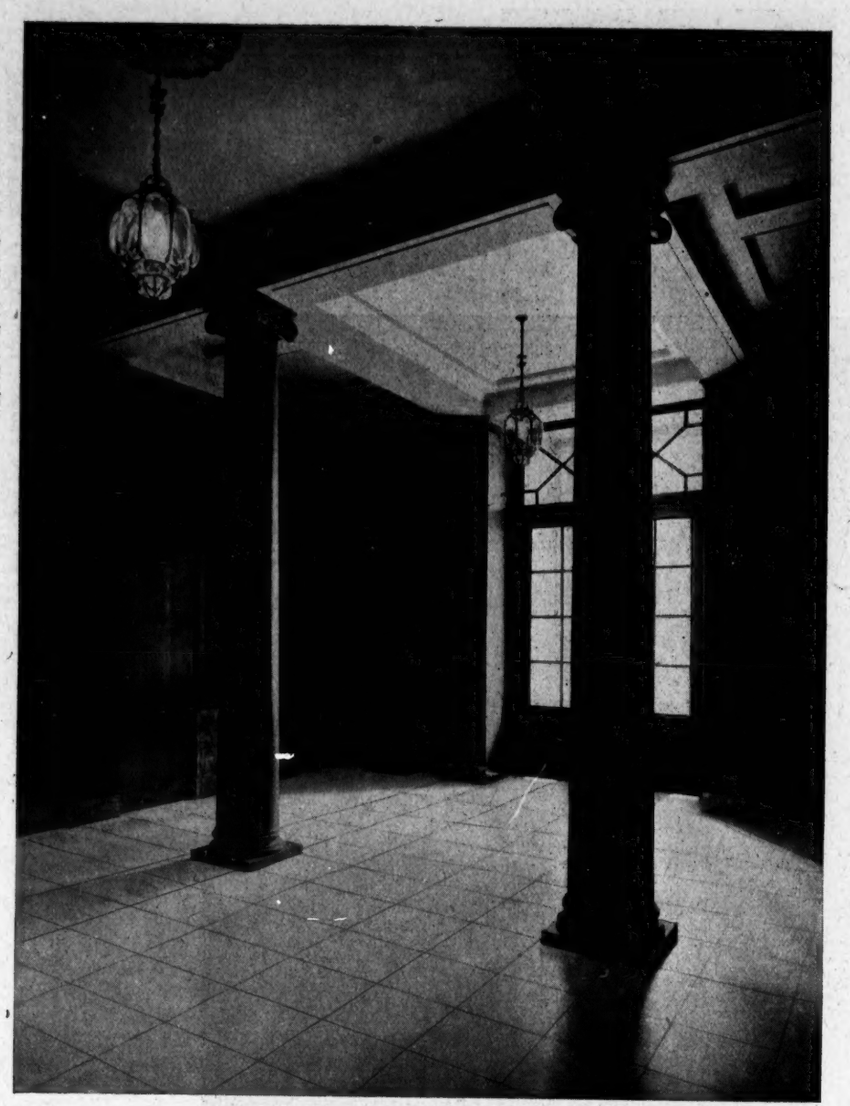
SIR EDWIN COOPER, R.A., ARCHITECT.

THE S.-E. SITTING-ROOM.

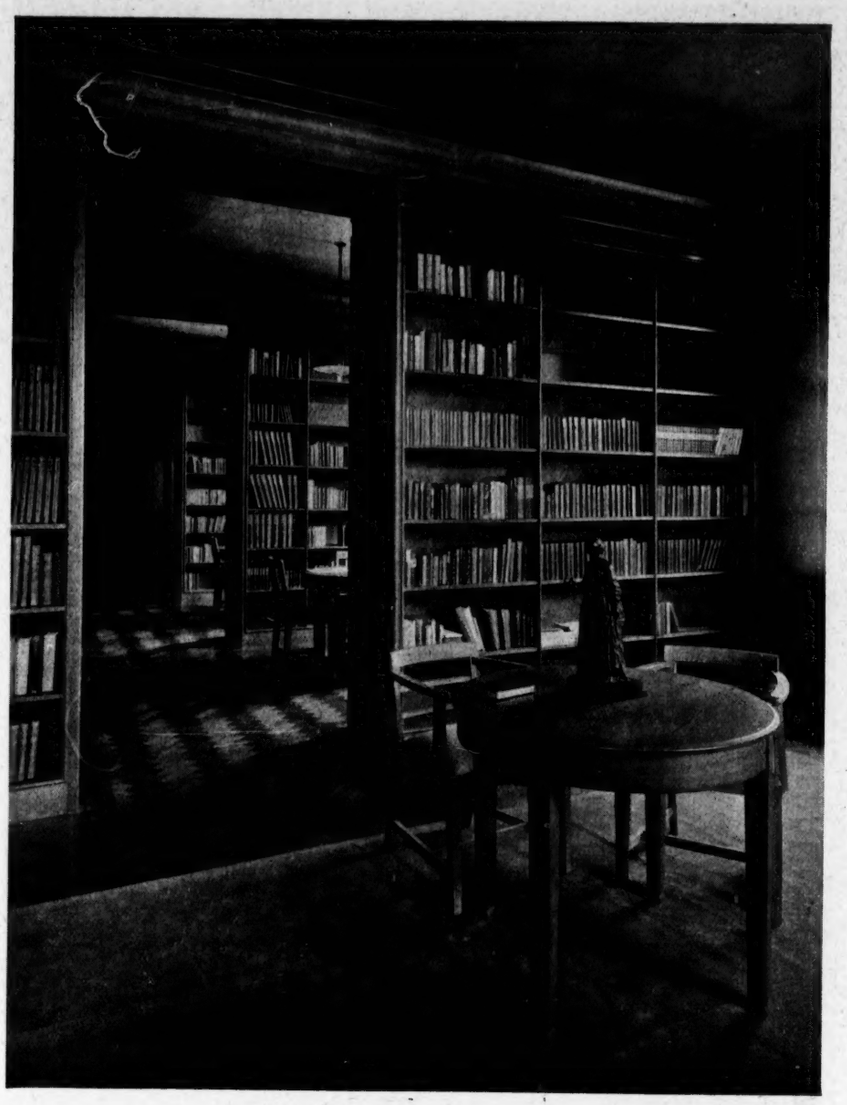


A SISTER'S ROOM.

Walls and ceilings of the nurses' sitting-rooms are white. The floors are in oak blocks, the doors within the white surrounds being flush. The bedroom floors comprise a series of room units of 100 sq. ft., one of which is allotted to each nurse, two together making a bed-sitting-room for a Sister. Each has fitted wash-basin and wardrobe.



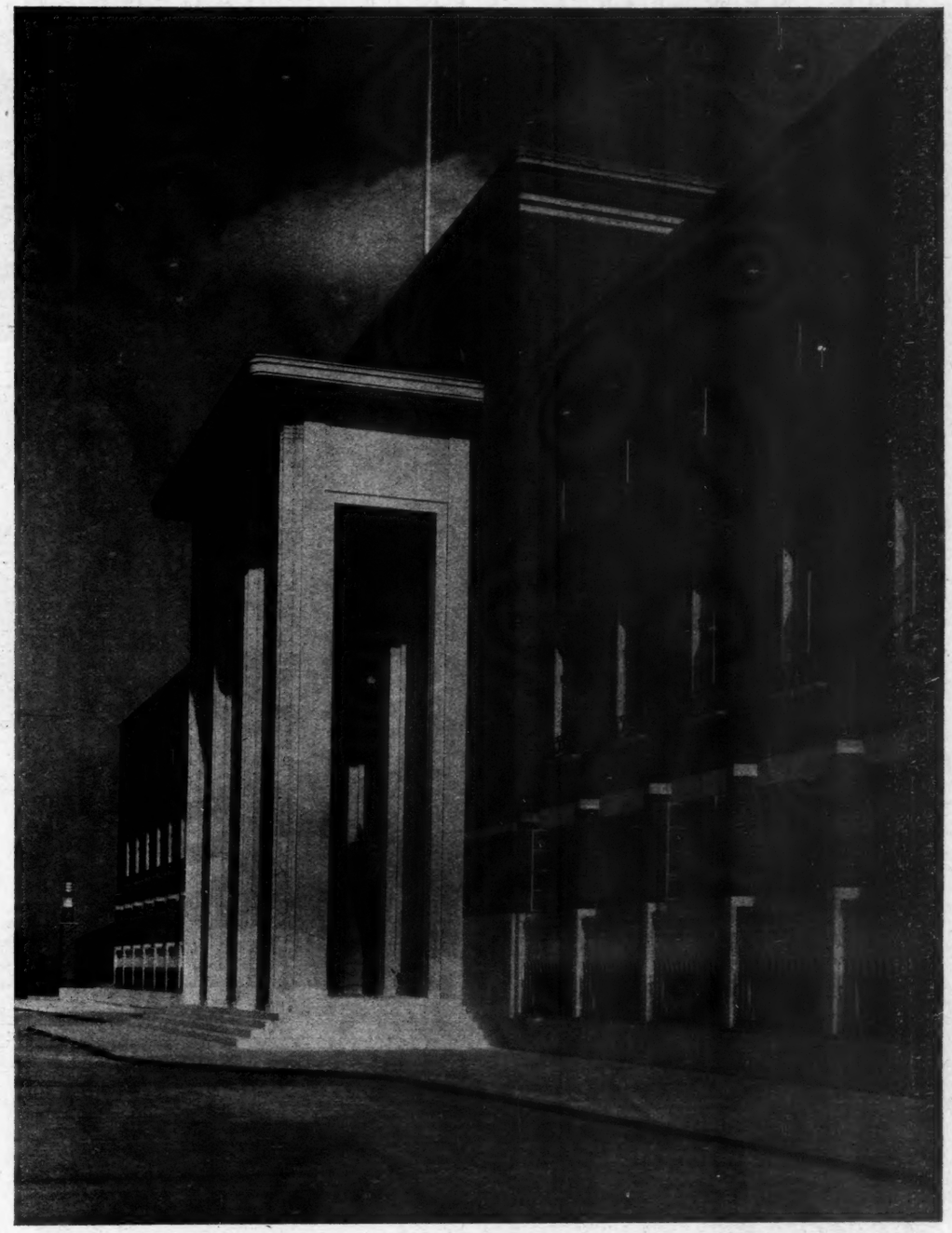
THE ENTRANCE HALL.



THE STUDY ALCOVES.

RIDDELL HOUSE : NURSES' HOMES, ST. THOMAS'S HOSPITAL.

SIR EDWIN COOPER, R.A., ARCHITECT.



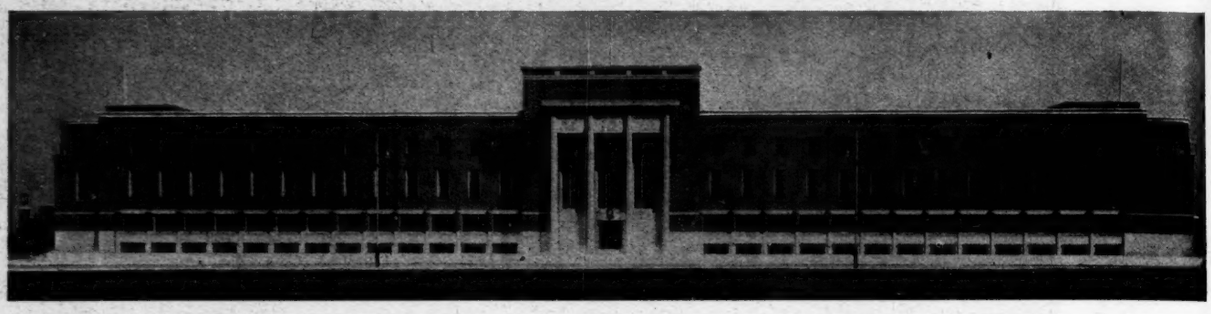
DETAIL OF WEST FRONT.

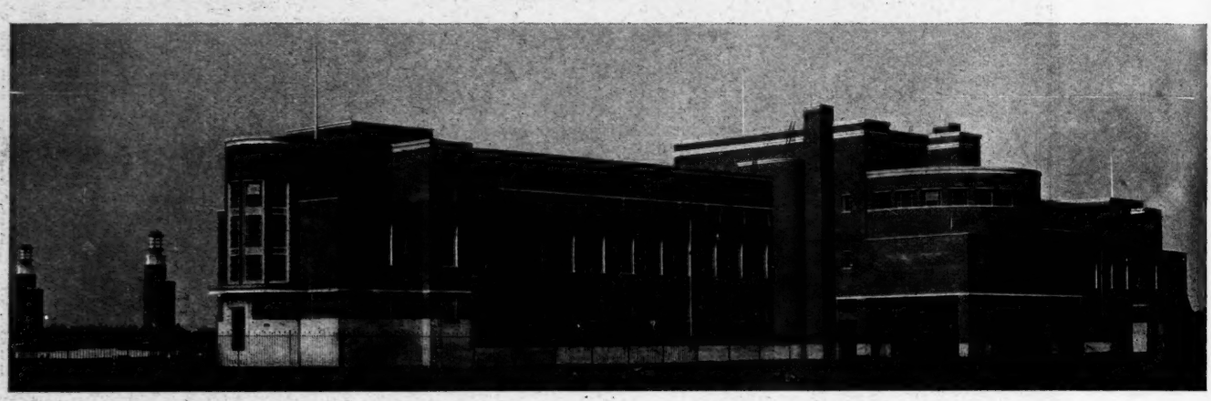
THE NEW CIVIC CENTRE, DAGENHAM, ESSEX.

MR. E. BERRY WEBBER, A.R.I.B.A., ARCHITECT.

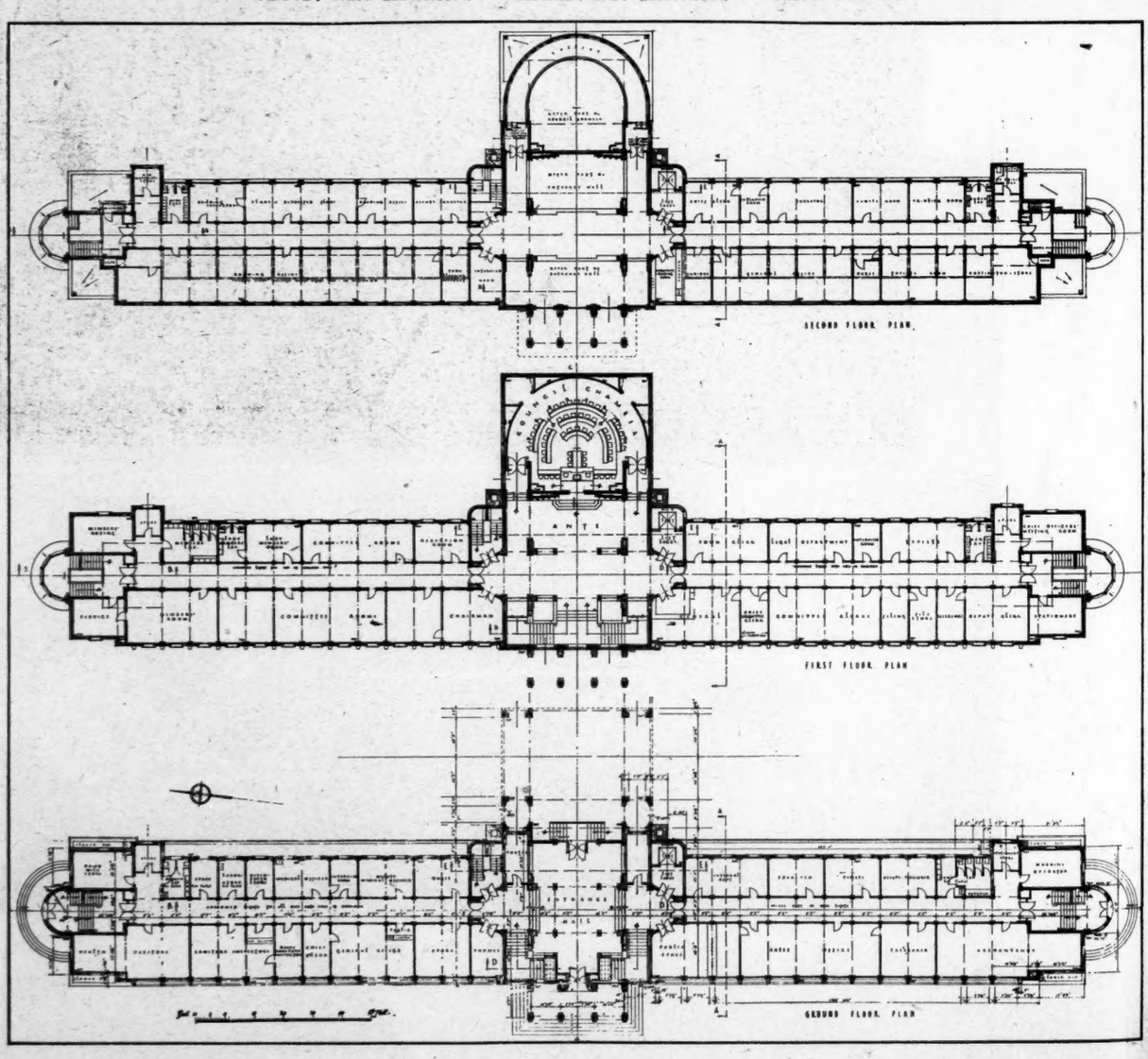
THE NEW CIVIC CENTRE, DAGENHAM, ESSEX.

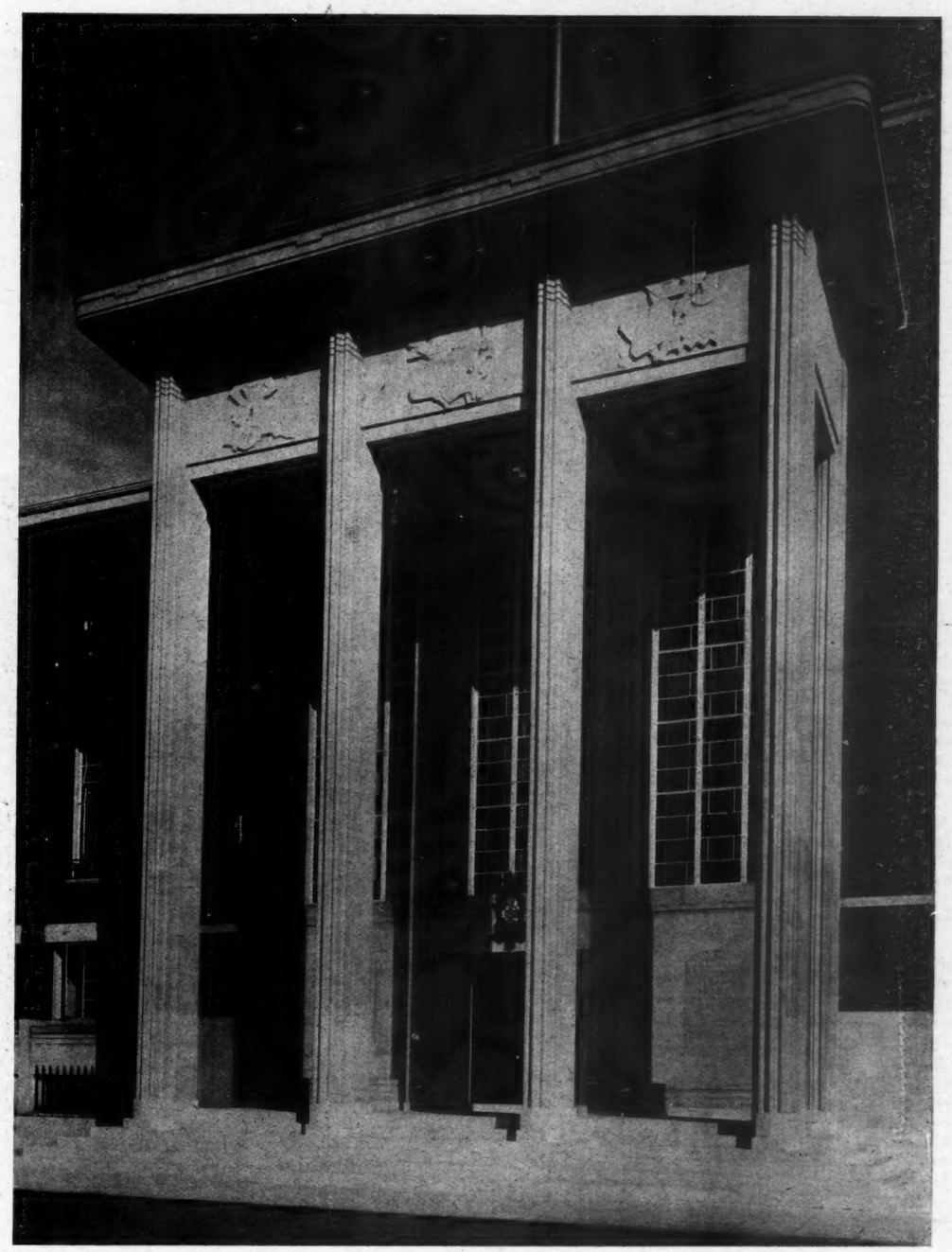
MR. E. BERRY WEBBER, A.R.I.B.A., ARCHITECT.





ABOVE: WEST ELEVATION. CENTRE: EAST ELEVATION. BELOW: PLANS.





THE MAIN PORTICO.

THE NEW CIVIC CENTRE, DAGENHAM, ESSEX.

MR. E. BERRY WEBBER, A.R.I.B.A., ARCHITECT.

THE NEW CIVIC CENTRE, DAGENHAM, ESSEX.

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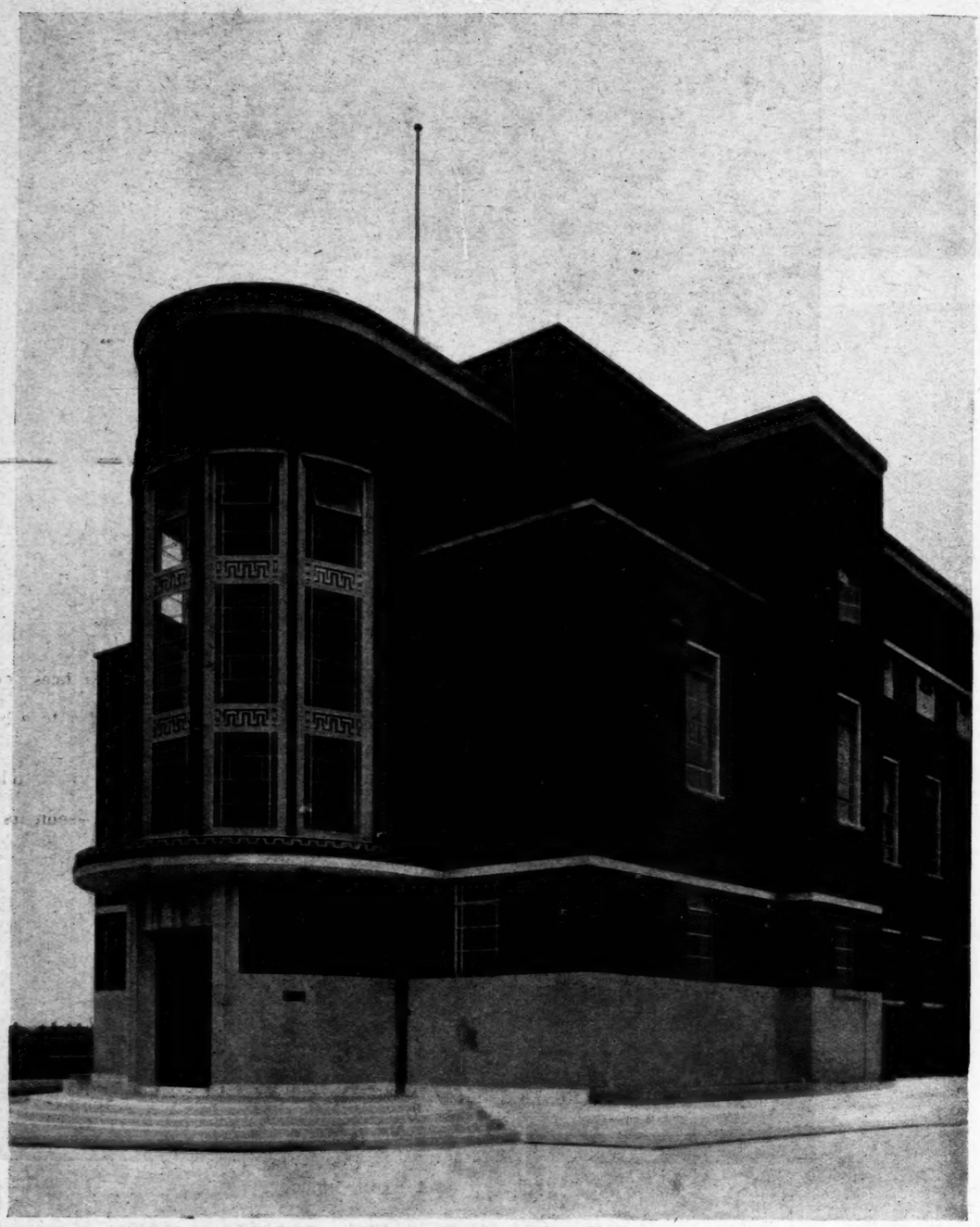


THE SOUTH ENTRANCE.

SIR KINGSLEY WOOD, Minister of Health, opened the new Civic Centre at Dagenham on Saturday last. Dagenham, in Essex, has gone from a straggling parish of 9,000 inhabitants in 1921 to a thriving town of over 103,000 to-day. When the Urban District Council was set up in 1926 there were no social services of any kind for the huge population which had suddenly appeared in the district as the result of the L.C.C. Becontree building scheme. Within the short period of 10 years the Council has installed a complete public health system with clinics and welfare centres, a sewage system which has attracted attention from all parts of Europe, an up-to-date public library service with five libraries, a salvage plant, an open-air swimming pool, and built roads and purchased 300 acres for park and recreational use. The Council are shortly to present a petition to the Privy Council for incorporation as a borough.

The Civic Centre itself has been designed by Mr. E. Berry Webber, A.R.I.B.A., and is one of the most interesting of recent brick buildings.

To appreciate the factors governing the design of this first portion of the new Civic Centre, it must be realised that, whereas this building represents a distinct entity of itself, it has to form part of a comprehensive group of buildings comprising municipal offices, assembly hall, library and fire station. All these will be constructed as independent units; therefore it is necessary for this first portion to "hold its own" until it becomes part of the completed scheme.

This is always a difficult problem for an architect, but in this instance the solution has been highly successful. The first portion has been designed to become the principal facade of the whole group, and later extensions take place to the rear and to the flanks; therefore this first building, with its spreading frontage, amply fills the vista as one approaches across Becontree Heath. The layout is simple. The portion of the Heath in front of the building is a fitting setting, with its expanse of plain turf and coloured flowerbeds. It is broad in conception, showing off the building to the fullest extent. At each end the building is flanked by

pleasant features incorporating pylons with lanterns illuminating long lily pools.

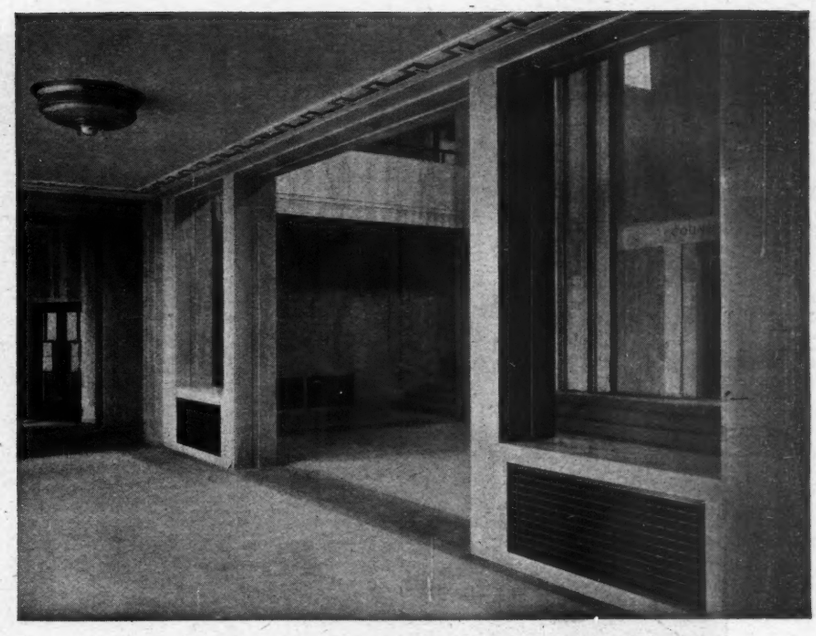
A civic building should express its special purpose, but at the same time it should try to echo the character of the neighbourhood which it represents. The Dagenham building looks what it is—an English civic building.

There are two main sub-divisions; that portion of the building set aside for the use of the chairman and councillors is spaciously planned with a fine entrance and dignified approaches to the civic suite of rooms. The remainder of the building is virtually an office block; there is no need, indeed it is unnecessary and extravagant, for this section to be as architecturally important as the Council's suite of apartments. Sufficient for its purpose is the provision of well-lighted rooms with direct inter-departmental communication in order to facilitate the work of the permanent officials and staff. In the plan and elevational treatment these two sharply defined divisions of the complicated and diverse nature of municipal administration is clearly recognised.

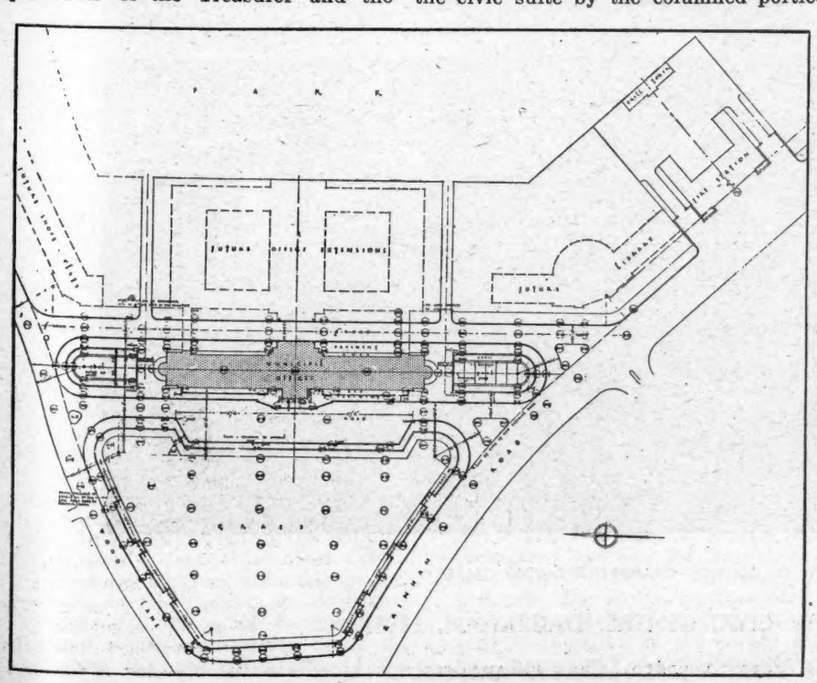
The civic suite is centrally placed in the plan, approached beneath a simply designed portico of impressive scale through a central entrance doorway into the main hall. This apartment extends for the full height of the building, and is lined with Botticino marble. No attempt has been made to graft architectural stylism on the basic form. The main ceremonial staircase ascends to the first floor from the entrance floor level, and is marble lined with solid balustrade walls. Above, and inter-connecting the two side office wings at the second floor level, is a gallery. The Council Chamber shape arises from acoustical considerations, and special requirements of convenient seating by which each speaker has a full view of the chairman and his fellow-members. A richly fashioned dado in English walnut lines the lower walls up to the public gallery; above, the walls and ceiling are treated with sound-absorbing materials in order to achieve perfect oral conditions. Special rooms for the mayor and for committee work are designed in simple fashion with flush Betula and sycamore linings.

The ground floor has offices housing the departments of the Treasurer and the Medical Officer. The top floor is given over to the Engineer and Surveyor. On the lower ground floor are the staff common rooms, caretaker's flat, strong rooms, storage space and boiler-house. All the offices are well lighted and cheerful, and a bright sunshine effect has been aimed at in the corridors and waiting spaces. The heating of the building is by means of a low-pressure hot-water system with oil-fired boilers. The ventilation of the offices is by extract fans pulling air through ducts above the corridor ceilings; but the Council Chamber has a special plenum system of its own. The lighting is by electricity, and the fittings are designed on the latest modern lines to eliminate the glare which is a frequent cause of eye-strain. In the staircase hall the lighting is particularly effective and decorative.

Externally, the design is composed in order to express the purpose of the sections of the work carried on within the building; central emphasis is given to the civic suite by the columned portico in Portland stone and by the large-scale treatment of the main hall windows and entrance door set within. The two office wings are designed in simple form as befits their purpose, and are faced with mulberry stock bricks with a Portland stone facing to the plinth. The two public and staff entrances and staircases at the extreme ends of the office wings are designed in order to echo the scale of the central entrance feature and correlate the importance of the entrances; with their carved, tall-windowed bays, they form terminations to the long wings of the building. Casements are metal, painted cream on upper floors and blue on lower ground-floor windows.

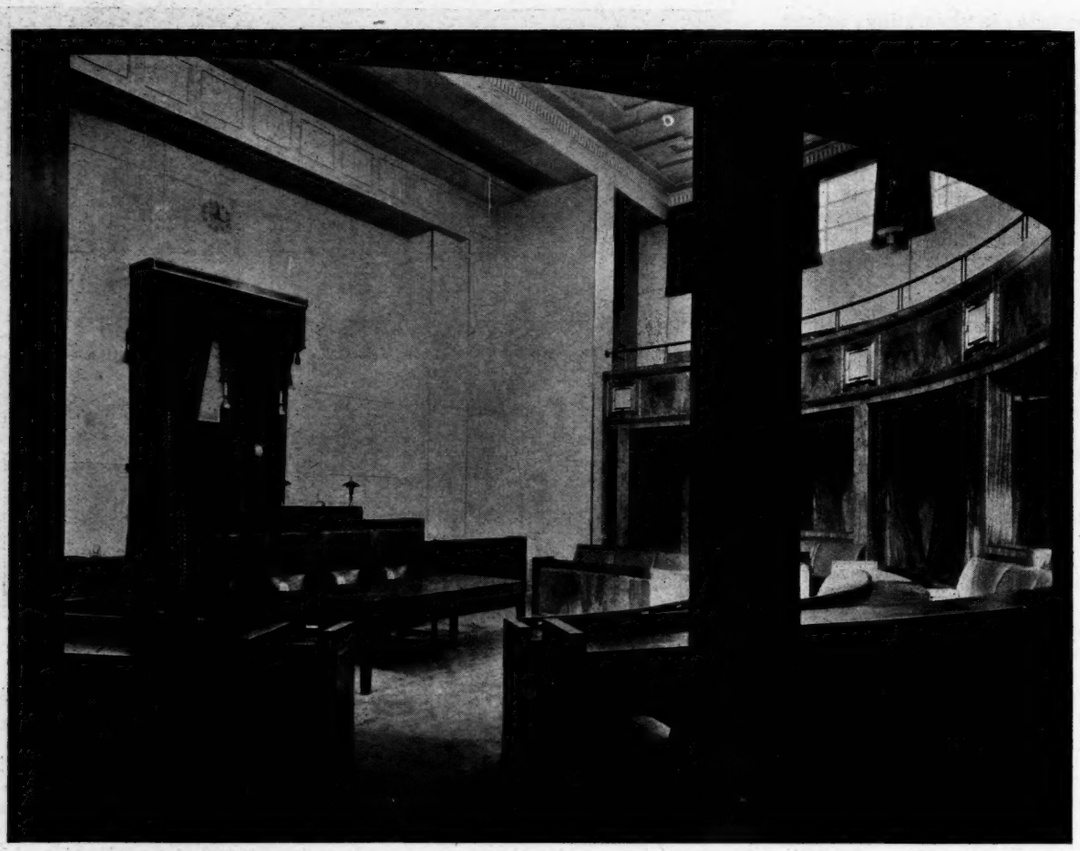


VIEW LOOKING INTO ANTE TO COUNCIL CHAMBER, FIRST-FLOOR.

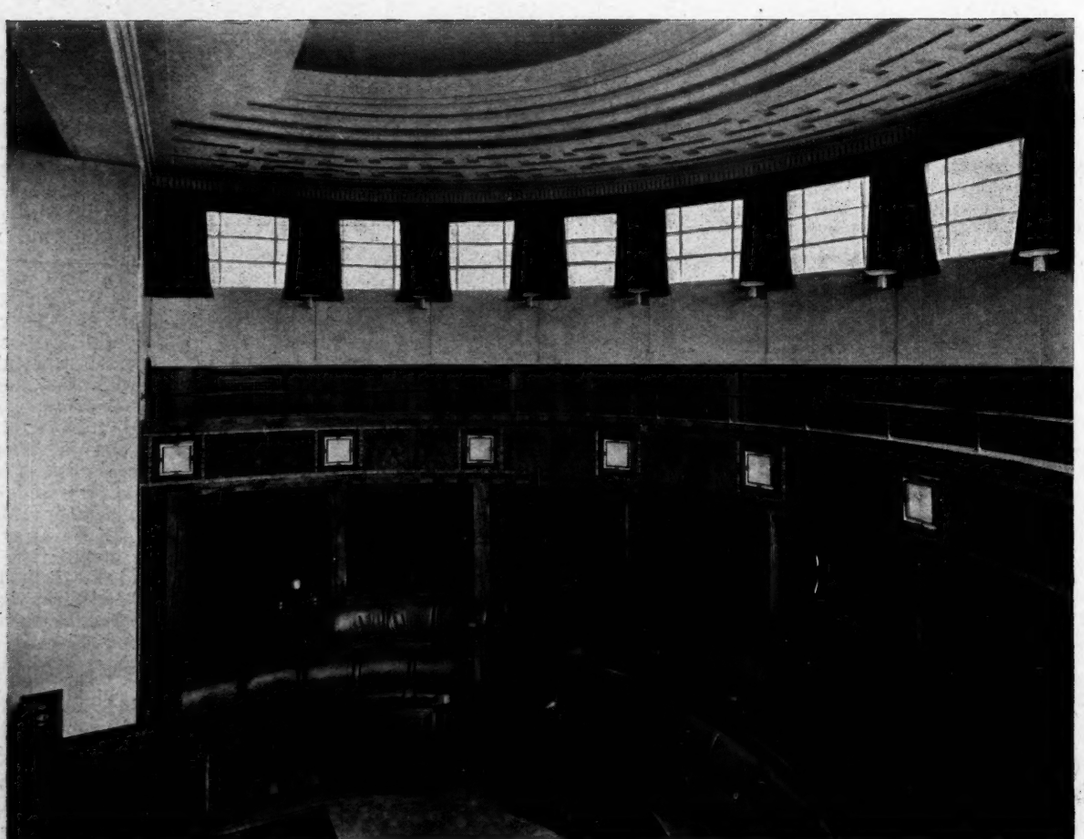


LAY-OUT PLAN, SHOWING MUNICIPAL BUILDINGS AND SURROUNDINGS.

The quantity surveyors were Messrs. F. J. Clevely and Partner, and the general contractors, Messrs. Allen Fairhead and Sons, Ltd., of Enfield. Subcontractors are:—Carving to portico, W. Aumonier and Sons; rubber flooring, Bank Bridge Works, Ltd.; reinforcement to foundations, British Reinforced Concrete Eng. Co., Ltd.; strong room equipment, Chubb and Sons Lock and Safe Co., Ltd.; heating and ventilation, James Combe and Son, Ltd.; internal telephone system, Dictograph Telephones, Ltd.; floors, terrazzo work, Diespeker and Co., Ltd.; hose reels, S. Dixon and Son, Ltd.; reconstructed stonework, Empire Stone Co., Ltd.; marble work, Fenning and Co., Ltd.; ironmongery and door furniture, etc., James Gibbons, Ltd.; lightning conductors, J. W. Gray and Son, Ltd.; electrical installation, Grierson, Ltd.; lifts, J. and E. Hall, Ltd.; ornamental metalwork, electric light fittings, C. Harvey and Co.; electric cooking equipment, Jackson Electric Stove Co., Ltd.; fibrous plaster work, G. Jackson and Sons, Ltd.; furniture, Kingfisher, Ltd.; metal windows, Luxfer, Ltd.; carved and applied lettering, George Mansell; carpets, curtains and blinds, Maple and Co., Ltd.; steelwork, Moreland, Hayne and Co., Ltd.; flagstaffs, Piggott Bros. and Co., Ltd.; sanitary fittings, Pontifex and Emanuel; asphalt work, Ragusa Asphalte Paving Co., Ltd.; panelling to council chamber and chairman's room, John Sadd and Sons, Ltd.; kitchen equipment, Staines Kitchen Equipment Co., Ltd.; wall tiling, Summers and Co.; lineloum, John Wood, Ltd.; and electric clocks, Synchromatic Time Recording Co., Ltd.



VIEW LOOKING ACROSS FLOOR OF COUNCIL CHAMBER.



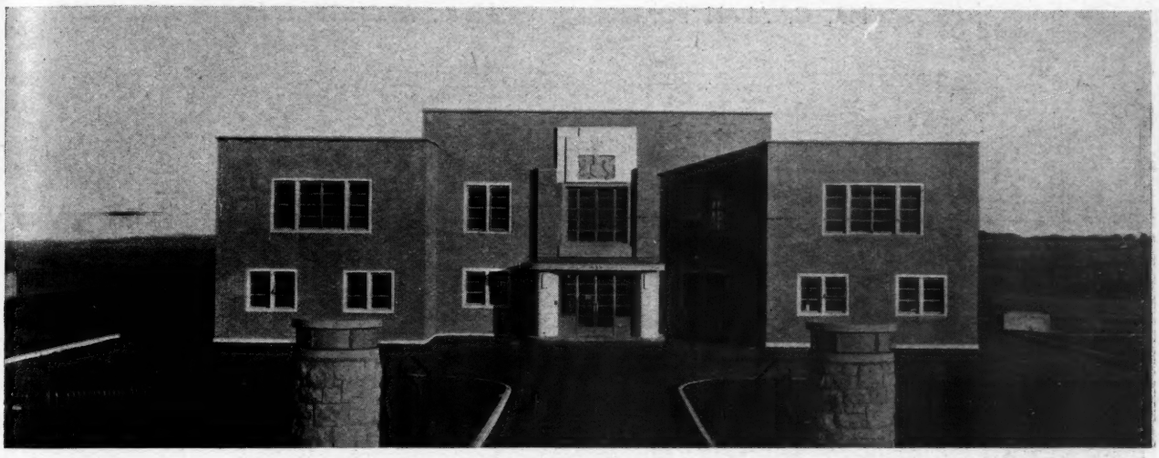
VIEW OF COUNCIL CHAMBER, SHOWING GALLERY.

THE NEW CIVIC CENTRE, DAGENHAM, ESSEX.

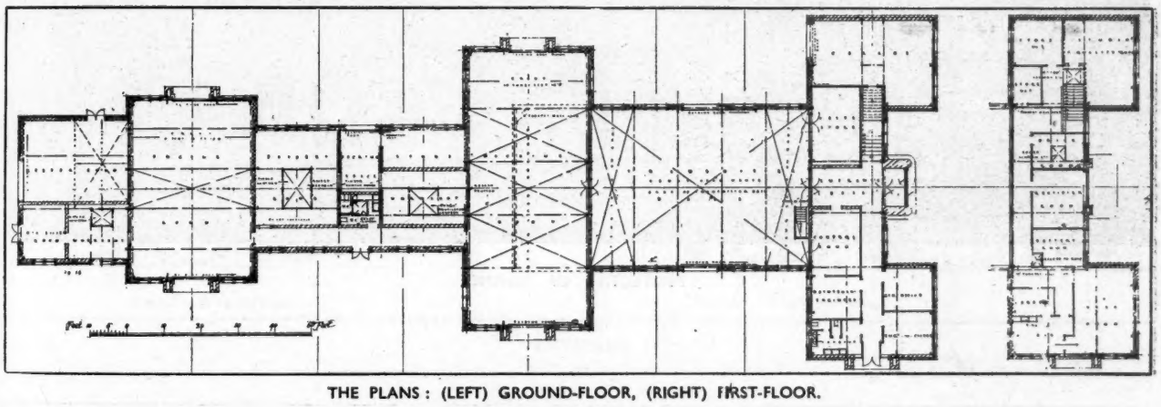
MR. E. BERRY WEBBER, A.R.I.B.A., ARCHITECT.

NEW B.B.C. TRANSMITTING STATION, STAGSHAW, NORTHUMBERLAND.

MESSRS. WIMPERIS, SIMPSON AND GUTHRIE, FF.R.I.B.A., ARCHITECTS.



THE ENTRANCE FRONT AND OFFICE BLOCK.



THE PLANS: (LEFT) GROUND-FLOOR, (RIGHT) FIRST-FLOOR.

THIS transmitting station was opened by Her Grace the Duchess of Northumberland on Tuesday. The main consideration involved in choosing a site for a broadcasting station is that the station shall give a satisfactory level of signal strength to the densely populated parts of the area which it is to serve. Other considerations were the convenience of the site as regards telephone line facilities, power supply and water supply. Finally, the site must be efficient for wireless transmission. This was ascertained by making tests with mobile transmitting and receiving equipment, and several sites were tested before the final choice was made. The site chosen, which proved satisfactory in all these respects, is five miles north-east of Hexham and 16 miles west of Newcastle.

An aerial system of the modern "mast-radiator" type is used. This consists of an insulated steel lattice mast 475 ft. high, standing on a concrete plinth 10 ft. high, and is similar to that at the Burghead transmitting station in Scotland.

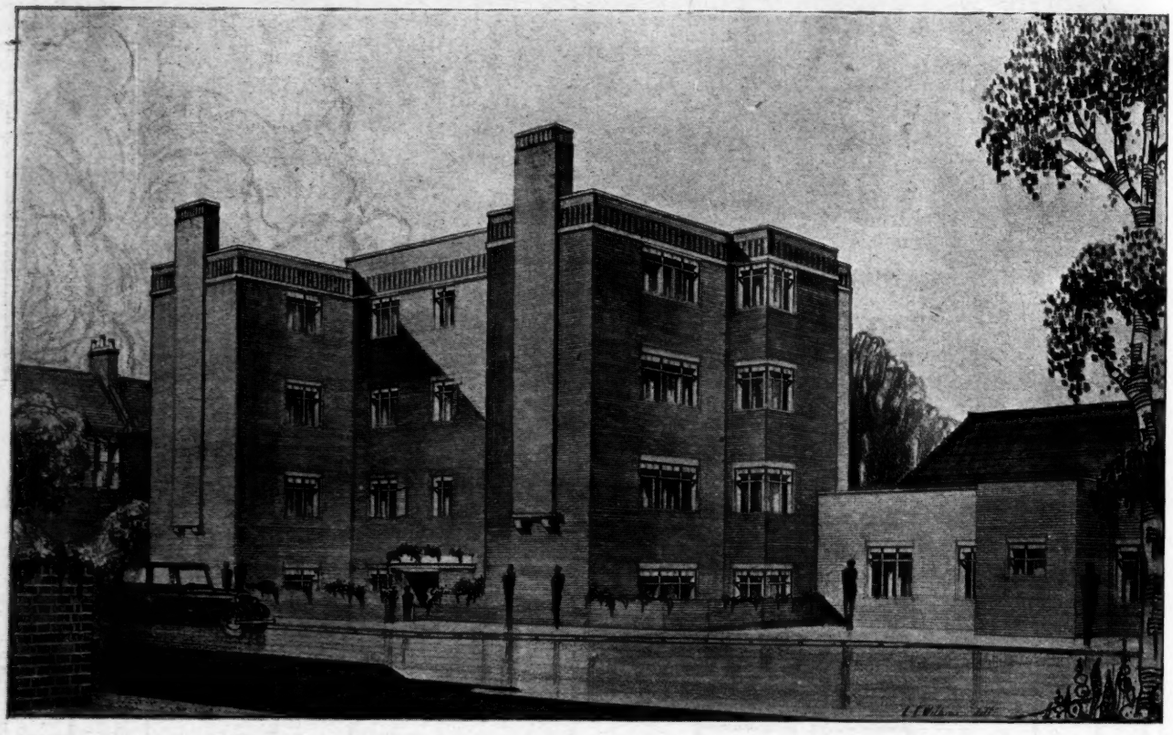
The general plan of the building is similar to that of other B.B.C. Regional stations, although the lay-out of the plant is somewhat different. It is 250 ft. long, and has a maximum width of 93 ft., while the average height of the elevation is 29 ft. The building is of single-storey, except for the office block. The design of the elevation was prepared by Messrs. Wimperis, Simpson and Guthrie, FF.R.I.B.A., and is restrained and modern in character. The walls are of pink-buff brick with "Blaxter" stone facings, which were specially selected to blend with the surroundings. The roof is flat and surrounded by parapet walls. Like the floors, it is constructed of hollow pre-cast concrete beams, and it is supported by steel beams resting on the walls.

The front part of the building contains the offices, staff mess-room, valve store, a quality checking-room and the control-room. The control-room is connected by high-quality telephone land lines to the Newcastle studio centre, and thence to the simultaneous broadcasting network. In the control-room the programme is passed through amplifiers which increase its strength to that necessary for the input to the transmitter. There is a programme control position at which the necessary control and switching operations are carried out. There is also a studio for emergency use and for testing, as at other B.B.C. transmitting stations. The apparatus associated with the constant-frequency drive unit is installed in the centre of the upper storey of the office block, facing the transmitter hall. The heating system is an accelerated hot-water low-pressure installation. An electrical thermal-storage cylinder is employed, the water being heated in an electrode boiler which takes a maximum load of 370 kw. Mr. M. T. Tudsbery, M.Inst.C.E., is chief engineer to the B.B.C.

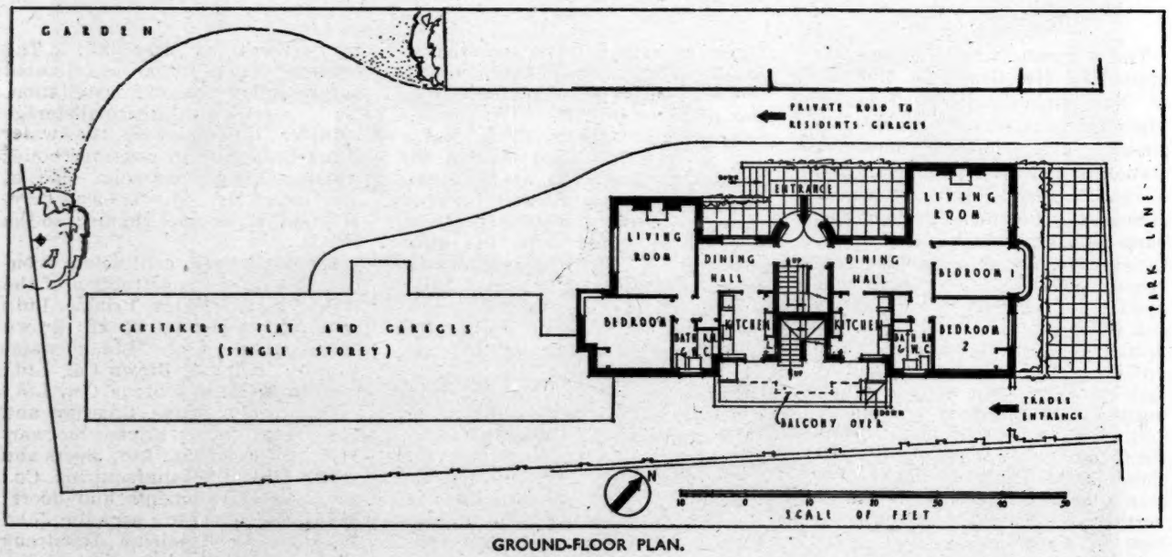
The principal contractors concerned with the construction of the station include: Alex. Pringle, Ltd., general contractor; B. H. Brown Engineering Co., Ltd., water supply; Redpath, Brown Co., Ltd., steelwork; Empire Stone Co., Ltd., carved coat-of-arms; Crossley and Sons, Ltd., facing bricks; Siegwart Fireproof Floor Co., Ltd., floors and roofs; Crittall Manufacturing Co., Ltd., metal casements and doors; Permanite Co., Ltd., asphalt; John Wood and Co., linoleum; Armstrong Cork Co., Ltd., cork flooring; Carter and Co., Ltd., tiling; Wadsworth and Sons, Ltd., cranes; Rosser and Russell, Ltd., valve cooling installation; G. N. Haden and Sons, Ltd., heating installation; Haskins, Ltd., roller shutters; Leeds Fireclay Co., Ltd., sanitary fittings; Braithwaite and Co., Ltd., water storage tanks; Comyn, Ching and Co., Ltd., ironmongery and metal work; Taylor, Pearce and Co., floor springs; Marshall and Co., copper gauze screening; and W. Marshall, stone walling.

FLATS AT CLISSOLD PARK, STOKE NEWINGTON, N.

MR. G. ALAN FORTESCUE, F.R.I.B.A., ARCHITECT.



PERSPECTIVE OF SCHEME.



GROUND-FLOOR PLAN.

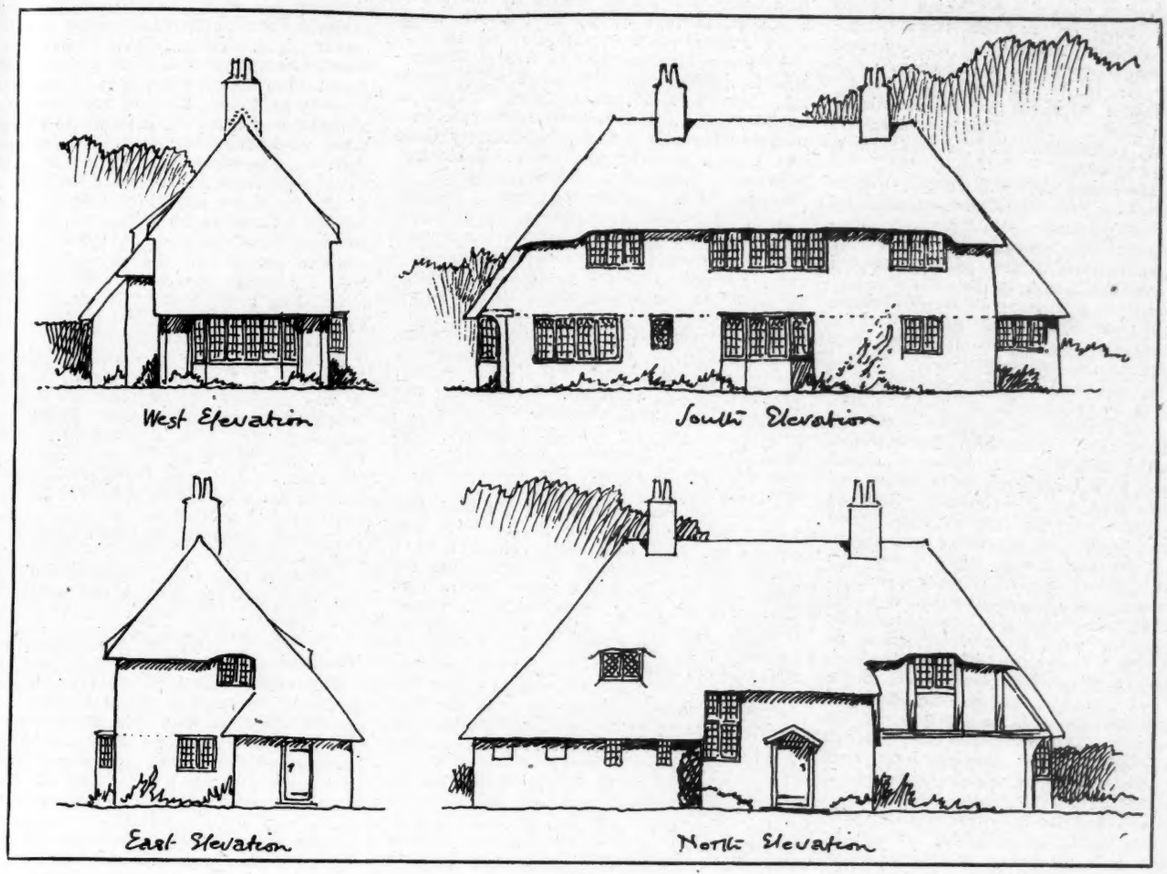
ILLUSTRATIONS on this page are of a block of flats shortly to be erected at 54, Park-lane, Clissold Park, Stoke Newington, N.16. A feature of the plan is that the entrance halls are wide enough to take a table and chairs for meals in order that the living rooms be not upset by transit of food. Main staircase and tradesmen's staircase are central, in order to avoid passageways, etc., and all drainage to kitchens and bathrooms is on one wall, and that a side one.

The bricks are of a heather-brown colour and supplied by Brick Makers and Factors, Ltd., of Southampton-row. The joints will be raked out and pointed in a biscuit colour, in order to bring out the beauty of the brickwork.

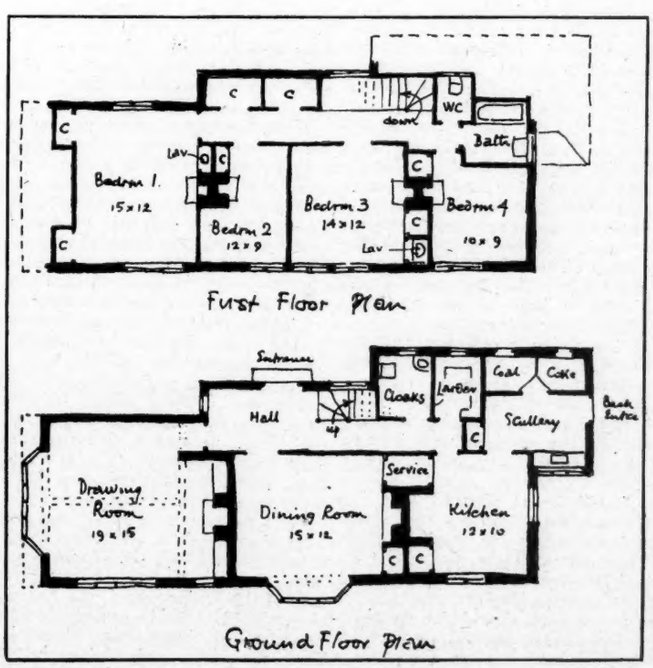
All floors will be fireproof and of the Kleine type, and there will be Crittall windows in wood frames. The roof will be flat and covered with asphalt. Heating will be by means of " Ascot " gas heaters, supplying sinks and bathroom.

COTTAGE AT CHALFONT ST. GILES, BUCKS,

MR. A. EDGAR BERESFORD, F.R.I.B.A. (BAILLIE SCOTT AND BERESFORD), Architect.



ELEVATIONS



PLANS

THIS is a simple structure of one span, with little elaboration save the necessary projection of a few dormer windows. The walls are of cream-washed brickwork; the roof of straw-thatch without any fancy lacing or plaiting. Though simple and inexpensive, the cottage is up to date in its internal equipment, and the rooms are spacious and planned for easy service, with adequate segregation of the various units. There is a good service of constant hot water, with fitted basins in several bedrooms; also an auxiliary system of central heating. Messrs. Y. J. Lovell and Sons, of Gerrards Cross, are the contractors.

THE PLANNING OF SCHOOLS

LECTURE AT THE R.I.B.A.

In connection with the exhibition of plans of school buildings at the Royal Institute of British Architects, an informal address was delivered on Wednesday, October 13, by Mr. H. W. Burchett, A.R.I.B.A., Chief Assistant Architect for the Middlesex County Council. Mr. Arthur Kenyon, F.R.I.B.A. (Chairman of the Exhibition Committee) presided.

The lecturer said that a little over a year ago a pamphlet (No. 107) had been issue by the Board of Education which had considerably influenced the design of schools. An important paragraph in this pamphlet stated that the architect's task in planning a school was to secure "compactness for convenience and ample light and air for health." This led naturally to the consideration of what was known as the open-air school. "Planing on open-air lines" might cover anything from a roof on posts, such as could be seen in St. James's Park, where tubercular children were taught, or at the other extreme, what would otherwise be called a closed school, but with large areas of window and door spaces that could be opened. Between these extremes was the type of school with classrooms opening on to one or two verandahs, but he had heard many complaints about this type of school. It worked well in sheltered positions, but where bitter winds and driving rains blew along the verandahs many troubles were experienced, and an architect, when designing this type of school, should give very careful consideration to our climate and plan to overcome draughts and the rapid lowering of temperature in the rooms when a door was opened if a high percentage of absence amongst both staff and scholars was to be avoided as a result of colds and kindred ailments.

For those who had not been dealing with schools as a matter of practice it might be of interest to know one or two things about the educational system as it affected planning. It was compulsory to send children to school from the age of five to fourteen (shortly to be raised to fifteen). The school-going years were divided into three periods. The first was from five years to seven or eight, and such children were called infants. From seven or eight until eleven they were called juniors, and from that age until the time of leaving school, seniors. Also, authorities or voluntary bodies were permitted to provide nursery schools for children from the age of two to five. A number of such schools were in existence and were extremely popular. Originally, nursery schools had been intended for the poorer districts where the mothers went out to work whilst the children were cared for in nursery schools. At such schools they did not learn anything about the three R.s; their training was mainly in social habits.

Nursery Schools.

The most important requirements for a nursery school were space, fresh air, sunshine, and warmth. In the afternoon the children slept—in the open air if the day was suitable, if not, under shelter. Apart from teaching spaces, it was necessary to provide internal sanitary conveniences and cloakrooms with lockers for their outdoor clothes. Such children were too young to recognise their own names when written, and in one school he knew, each child was represented by a different animal, which was painted or worked on its locker and everything else it possessed.

It had been found that if external doors reached to the floor the latter was generally draughty. A means of overcoming this was to be seen at the Kensal Rise nursery school, where the whole of the side towards the sun could be opened in order to admit light and air, but the bulk of the window space did not reach down to the floor but to a line about fifteen or eighteen inches above it. Above that line the whole of the space up to a transom could be opened by the use of a concertina type of window, above which there were clerestory ventilation lights.

To proceed to the ages of five to fifteen—infants, juniors and seniors. Broadly speaking, infants and juniors were taught in mixed classes. This was also the case in a number of senior schools, but latterly there had been a growing practice to divide into boys and girls. The buildings might be grouped in a variety of ways. Infants, juniors and seniors might be in separate buildings, but the most usual arrangement was to combine junior mixed and infants in one school, the children going on at the age of eleven to the senior school in a separate building.

If there were under four hundred scholars it was called a single department school, under one head teacher, but if that number was materially exceeded, the school was divided into two departments, one for juniors and one for infants, under separate head teachers. Whether it was a single or a two department school, the infants always occupied the ground floor.

The main considerations in a school plan were aspect as related to the approach and circulation. The classrooms should have a sunny aspect—south-east by south was the best—and they should be away from a road that was or might become noisy. Consequently, planning a school commenced by purchasing the right site. It was desirable to buy a site with the road on the northern side; this enabled the architect to place the classrooms at the back away from the road with a southern aspect, and, incidentally, the classrooms would look out over the playing fields.

The next point was that when the youngest children, the five-year-olds, first came to school they were put into a separate class by themselves and their classroom, cloakrooms, etc., should be separate and designed in the manner of a nursery school. The plan exhibited on the screen showed easy access to the garden, paddling pool, sandpits and playground, and a separate entrance for them. The older children had other entrances and cloak-room accommodation. It was desirable to avoid congestion in the cloak space and adjoining corridors. The maximum number for a cloakroom opening on to any one corridor should be about two hundred. These older infants had their own playing space and garden, with the sanitary offices so placed as to be easily accessible therefrom as well as from the school building.

It was desirable that the head teacher's room should be placed near the main entrance, with her own lavatory accommodation. As in the infants' department there were never any male teachers, only one staff room was required. The school hall should have near it a kitchen or kitchenette, where the milk the children had in the morning could be warmed.

The medical inspection room was rather important. The doctors said the room should be near the main entrance, as many mothers came with perambulators, and in these the babies were left, the mothers waiting in the entrance hall while the children were being examined, at the same time overlooking their perambulators.

The school should be so planned that it was open all round, with gardens on three sides and the forecourt to the road on the fourth. The youngest children should have their own playing spaces, with easy access to their part of the school.

The junior department should be on the upper floor. It was most desirable to avoid cross traffic in the corridors or classes of infants clashing with classes of juniors; therefore there should be separate entrances and staircases for the juniors, planned so that they did not come into collision with the infants on the ground floor.

The Board of Education thought it desirable to have the tar-paved playing area for the juniors in one stretch for the purpose of physical training, and the sanitary offices must be easily accessible from this area and the school itself.

There was a division of opinion as to when children ceased to be infants and became juniors, some authorities saying seven and others eight. There might be considerably more juniors than infants in the school. Apart from this, in the case of a school in a newly built area, it could not be known beforehand how many children would attend, or what would be their ages. Consequently, there must be some elasticity in the planning. In a plan shown there were certain rooms which could be used for either juniors or infants. These rooms were near the juniors' entrance, and although on the ground floor were so placed that the juniors using them need not come into collision either with infants using another entrance, or, if occupied by infants, these would not collide with the juniors using the staircases.

Showing the plan of the upper floor, the lecturer said that in the junior department it was necessary to provide not only classrooms, but also craft rooms. There was an assembly hall with a platform. In this department there would be a few men on the staff, and it was therefore desirable to provide not only a staff room for the women teachers, but another for the male staff, each with their separate cloakroom and sanitary accommodation.

The floor area of a classroom was 520 sq. ft., and such a room could accommodate fifty scholars.

The Senior School.

The senior school presented a rather different problem. The general conditions of aspect, approach and circulation were similar, but there were two other considerations, namely, evening classes and social functions. In a plan shown the school was divided right and left on the centre line into a boys' school and a girls' school. The garden was an important feature in the senior school. In the plan shown the gardens were all round the school and interlocked with it. This provided a very pleasant outlook for the children, economised space, and made the garden more conveniently accessible from the school for gardening lessons.

Up to the end of the junior period children were discouraged from coming to school on bicycles, but many senior scholars, drawn from a wider area, did so, and a place had to be provided where they could leave them before proceeding to the cloak-room and thence to the assembly hall or classroom.

When children came a long way they sometimes got wet on the journey, and drying-rooms should be provided close by the cloakroom to dry their clothes.

In the case of some rooms, for instance, handicrafts and domestic science, a northern aspect was best, so these should be placed on the north side of the building, but so designed that a certain amount of sunlight could be admitted from another direction.

Right and left of the main entrance should be the rooms for the head teachers, conveniently placed for parents who wished to interview them, and staff rooms both for men and women. There should be two assembly halls, one for the boys' school and one for the girls'. It was a good arrangement for them to be separated only by a folding partition, which could be pushed back on occasions so as to make one large hall.

Each department, boys' and girls', should have a gymnasium, with changing-rooms and shower-baths adjoining. These should adjoin a large area of tar paving, which, as in the case of the junior school, the Board of Education wished to be in one single area for convenience of large-scale physical training. There should be gardens close up to the school and all around, and sanitary offices, as in the junior school, approached through an open-air lobby, also easily accessible from the playground and school building.

Illustrating his remarks with further slides, the lecturer said that one of these showed three craft rooms and an art room, with

stores adjoining, and a library. There was a canteen or dining-room. This was not required in every school, but when children were drawn from a rather large area, it was convenient and economical for them to stay to a midday meal. There were two locker rooms, where children kept books and papers.

Where evening classes were held, special-subject rooms had two storerooms adjoining instead of only one, the second being for the use of evening-class students. Each assembly hall would have its own stage or platform; when the two halls were thrown into one for social activities or a large gathering one of these stages could be used as a gallery. For the people attending these functions the cloakrooms and sanitary conveniences were close by.

Questions and Answers.

A great many questions were then asked. Answering these, the lecturer said that whether a school should be on two storeys or one was a matter for the particular authority concerned. For a school designed on open-air lines with verandahs one storey was better, but if it was a large school it occupied a tremendous area of ground. Near a big town land was expensive, and a two-storey school was a sound and workable one. For a small school a single-storey building was perhaps cheaper.

Generally speaking, the gymnasium was used so continuously that it was desirable to have duplicated rooms for changing and shower-baths, so that one class could be changing to go in and another changing to come out.

Cost per cubic foot was about 1s. 4½d. for junior or senior schools, but cost per place was an elusive thing. Gymnasium, assembly hall, staff rooms, heating chamber and rooms for medical inspection and other purposes bad, generally speaking, to be provided whatever the size of the school; therefore the smaller the school the more it cost per school place. Senior elementary schools might cost up to £65 per school place.

He had found the cheapest type of heating was by ordinary low-pressure hot water. Solid fuel cost less than oil. Electricity was very expensive.

It was difficult to be dogmatic as to whether a school with a pitched roof cost more or less than one with a flat roof. Cubing the pitched roof building from top of foundations to half-way up the pitched roof the cost was about 1s. 4d. per cubic foot. Taking the cube of the modern type of building up to dead level of top surface of flat roof the cost per cubic foot was also about 1s. 4d. or 1s. 4½d. These were all-in figures, including heating, lighting, tar paving, etc.

The lecturer wished it to be understood that it was not claimed that the plans shown illustrated a type that should necessarily be followed. They were only prepared in order to present in graphic form, on a plan that it would be possible to build, the recommendations of the Board of Education contained in their Educational Memorandum No. 107.

[NOTE: Two of the plans referred to by Mr. Burchett were given in our last issue.]

Planning for the Future.

Miss Hawtrey (Principal of the Avery Hill Training College) followed with some remarks on the ten-year plan for children. This plan, she said, had been formed by a small group of people who felt that one of the most urgent questions was to get a rapid and complete reform of school buildings. At this moment more plans were being drawn up, more money was available in Government grants, and there was more enthusiasm with regard to school buildings than ever before. But, even so, an enormous amount remained to be done. In ten years, if we were prepared to spend from £5,000,000 to £10,000,000 in loan charges, we could absolutely reform, rebuild or recondition every school in this country. The ideal of one age became the handicap of another. In the exhibition there was a print of 100 years ago showing an infant school with a gallery where 100 children could be taught together. At the time this gallery was built it was a splendid alternative to the cramped and sordid conditions of the daily school, but to-day the relic of the gallery was an impediment. It was difficult to alter, remove or rebuild some of these schools, but one group of photographs showed some schools that had been reconditioned to bring them more into accord with modern ideas.

BOOK REVIEW

Stained Glass of York Minster. By CANON F. HARRISON, M.A., F.S.A. London: The Studio, Ltd. Price 7s. 6d.

It is a pleasure to turn over the pages of this large-sized, slender monograph, one of the "Studio" publications, which contains a series of eight photographic reproductions in colour of the stained glass of York Minster. The illustrations are accompanied by interesting descriptive text contributed by Chancellor Harrison, who has co-operated with the publishers in the undertaking, and is a well-known authority on the stained glass of the Minster. The examples reproduced are selected from various windows of different dates, chosen also for their accessibility to photography.

It will be recalled that during the War all the glass was removed to a safer place, and several of the windows found a temporary home under the inner rampart of the city, which was in the deanery garden. After the War, an appeal was made for a fund of £50,000, to "preserve" these windows at a cost, as was stated by the late Dean of Westminster, sufficient to furnish the whole cathedral with new stained glass! So much for the history of York glass in recent years, and it is not lack of appreciation of what remains to recognise that much of its lustre has passed away. In studying the glass, it has to be recognised, and it is revealed in these reproductions, that cracked glass has had to receive many extra leads to repair the damage, and new glass introduced; added to this, its complete re-leading has dimmed its earlier raptures, so that we must not make a fetish of the mediæval glass in York Minster. Much yet remains to delight us, though some of the life has gone out of it.

Though these famous windows illustrate the prevailing religious views of the period during which they were made, as Mr. John A. Knowles pointed out in his authoritative account of the York glass, "The York School of Glass Painting," religious views counted often far less than those of secular and worldly character. Heraldry replaced religious emblems, and those who, like Lord Scrope, gave windows to the Minster, insisted that their arms were always prominently displayed! The subject-matter was directed less to religion than to the kings, nobles and bishops anxious to be commemorated in the best positions, for which they scrambled. In this sense the parish church has counted more as the centre of the religious life of the nation than the cathedral.

In the introductory chapter reference is made to the narrow border of plain glass running round the lights, "which can be broken without damage to the window when it has to be removed." This advantage is more than counter-balanced by the injury suffered to the proper relation which should exist between the masonry and the glass, leaving the window "in the air," as though detached from the stonework. It is also necessary to refer to the serious loss of illumination in the beautiful east window resulting from the leaded glass guard placed outside. The risk of injury from a chance stone is surely less than the loss of illumination to the window resulting from it. Those who remember this fine window before the guard was placed outside will recognise how serious that loss is.

The publishers are to be congratulated on offering us examples of the York glass so well reproduced, in which the colour gives so close a likeness to the originals, the scale of the reproductions averaging 8½ in. by 10 in. We are therefore glad to call attention to the book and recommend it to our readers.

PRESERVATION OF STONE BUILDINGS IN LONDON.

RESTORATION OF THE FACADE OF SIR JOHN SOANE'S MUSEUM.

THE preservation of stone buildings in London is a matter of national importance. Looking back over the many experiments of the past half-century, it seems improbable that any better material than Portland stone is likely to be found. It is, therefore, worth while to point out that there is an ancient tradition of the use of oil and paint for stone in highly exposed situations that can be carried back to the practice of Sir Christopher Wren in building St. Paul's.

The building accounts of the Cathedral, now being published by the Wren Society, will show, in next year's volume, that he painted the pediment bas-relief on the north-west and south sides, after they had been soaked in oil, and the same method was followed with the external statues.

Oct.-Dec., 1698. To Wm. Thompson, painter, for painting Ye King's Arms in ye North Pediment 4 times over, 18 yards at 16d. per yard, £1 4s. 0d.

Oct.-Dec., 1699, for Painting ye Carved Phœnix in ye Pedement over ye South Portico, 5 times over in Oyle, 25 yards at 16d., £1 13s. 4d.

Dec., 1706, for Painting ye Pedament at ye West End, 145½ yds. at 12d. per yd., £7 5s. 6d.

June-Dec., 1721, Painting ye 7 Figures at ye West End, 4 times in oyl at £2 ea., £14 0s. 0d.

In addition to this, as a precaution against the damp atmosphere, the whole of the inside walls of the west portico were painted. Portland stone will absorb the oil and paint, and no one would believe that the sculptures were painted from their present appearance, but it is certain that their preservation is due to Wren's precaution.

The façade of Sir John Soane's Museum was painted in 1839, after Sir John Soane's death, by order of the Trustees, who had at the time no architect member. It has been regarded as a stucco façade in consequence, but it was not the practice of Sir John Soane to use stucco. He adhered to the brick tradition of the 18th century when he could not afford stone. The whole of the stonework of his house is a very fine Portland, with some features in Coade stone, which was an early form of terra-cotta. Various attempts to remove the twenty coats of paint gave no satisfactory result, until the process of grinding off the paint with carborundum wheels, driven by small electric motors, was tried, and has proved highly successful. The paint flies off in a cloud of fine dust, and the stone is not affected. It is believed that a century and a half ago it was the practice to oil Bath stone, and that the durability of Apsley House, faced in that material about 1820, is due to that cause.

It is a fact not generally known that Sir Christopher Wren oiled and painted the whole interior of St. Paul's (1709-10). When the paint was removed in 1872 it was no doubt thought to be of a much later period. The fact is unquestionable, and full particulars will be given in the next volume of the Wren Society. It is highly important in its bearing upon the question of Sir Christopher Wren's actual intentions in the decoration of the Cathedral. The two statues on the façade of Sir John Soane's Museum are being left painted. They are signed "Coade and Sealy, London, 1812." The works were at Lambeth, and many specimens of their work remain in excellent condition, but under-burnt examples will be found decayed, as in the case of two or three acroters at the Museum, which have been replaced in Portland stone, oiled and painted.

The restoration work has been carried out by Messrs. Dove Bros., of Islington.

ARTHUR T. BOLTON, F.S.A., F.R.I.B.A.,
Curator.

MEASURING AND PREDETERMINING DAYLIGHT ILLUMINATION

SIR,—I observe that in the further correspondence regarding the above matter, Mr. P. J. Waldram states that an appeal by me against his patent No. 38,852 (not No. 38,851, as stated) for "An Optical Sky Illumination Measurer," applied for on October 19, 1931, was dismissed. This statement is incorrect. No hearing before the Comptroller-General or the Appeal Tribunal ever took place regarding any objection of mine to the granting of a patent to Mr. Waldram. I assume that a patent was granted to him, because no objection to his instrument was pursued. That is an entirely different matter. When I saw the specification of Mr. Waldram's instrument, the advice of counsel was taken, and I was given to understand that it would probably be held to be an infringement of the patent granted to me in respect of my prior invention, patent No. 356,822, applied for on March 17, 1930, and accepted September 17, 1931. As, however, Mr. Waldram did not claim the special movement, whereby light from any number of windows can be measured at the centre of perspective, around which the instrument revolves, no further action was taken.

In view of the undisputed fact that the daylight measuring grilles made by me, with the assistance of the calculations of Mr. A. C. Stevenson, have the smallest units of any now in use, it is difficult to understand Mr. Waldram's subsequent statement that all attempts to construct grilles prior to his own were far too crude and too obviously inaccurate. This statement is wholly incorrect. Compare Mr. Waldram's own early daylight factor grilles, illustrated in the *Illuminating Engineer* of December, 1931, with my own grilles then in use. Compare his 0° co-ordinate grille of angles in Fig. 3, page 314, with my corresponding grille illustrated in *The Builder* of October 24, 1930, and his grille of angles in Fig. 7, page 315, with the 45° grille of angles superimposed by me over a photograph and illustrated in *The Builder* of November 13, 1931, or with my similar grille (not superimposed) which appeared in the *Architect and Building News*, on July 31, 1931. Mr. Waldram also illustrated a rudimentary daylight factor grille in Fig. 8, page 315. A glance will show that it cannot be compared on the same footing with the type of grilles now in use. It looked purely experimental and was apparently not based on any systematic subdivision of the sky into areas representing equal units of light. The unit of illumination was stated to be 0.5 per cent. daylight factor. The unit of Franz Pleier in 1907 was one-fourth of a square degree (i.e., $\frac{1}{4}$ of 0.0096 per cent., say 0.0024 per cent. daylight factor). My unit is 0.0025 per cent. daylight factor, or, approximately, the same as Pleier's, but the method adopted in the construction of my grilles is entirely different. Compare Fig. 8 on page 315 of the *Illuminating Engineer* with any of my own daylight factor grilles, and then consider whether Mr. Waldram was justified in alleging crudity and inaccuracy on the part of those who made daylight factor grilles before he did.

Mr. A. C. Stevenson illustrated carefully plotted co-ordinate grilles of angles in the paper entitled "On the Mathematical and Graphical Determination of Direct Daylight Factors," read on September 4, 1931, at the Glasgow meeting of the International Illumination Congress. On December 14, 1931, the editor of the *Journal of Scientific Instruments* received from Mr. Stevenson a paper entitled "The Photographic and Visual Determination of Direct Daylight Factors." This was printed in the number of March, 1932, and contained illustrations of the small unit daylight factor grilles that I am now using. Mr. Waldram's complete specification was not left at the Patent Office until June 14, 1932, and was not accepted until March 9, 1933. He, therefore, had an opportunity of perusing Mr. Stevenson's paper in the *Journal of Scientific Instruments* of March, 1932, prior to depositing his complete specification on June 14, 1932. The only daylight factor diagrams attached to his specification were the rather primitive ones in Figs. 6, 7 and 8, in which the unit of illumination was 0.1 per cent. cill ratio, or 0.05 per cent. daylight factor, which it will be observed is a rather large one compared to the 0.0025 per cent. daylight factor of my own grilles. These grilles were, however, much more like mine than the grille illustrated in the *Illuminating Engineer* of December, 1931, the month when Mr. Stevenson sent in his paper on daylight factor grilles to the *Journal of Scientific Instruments*. The difference between Mr. Waldram's own daylight factor grille, illustrated in Fig 8, p. 315 of the *Illuminating Engineer* of December, 1931, and the daylight factor grilles that he used to illustrate the complete specification, which he deposited on June 14, 1932, should be observed. That certain of the daylight factor grilles attached to his complete specification, which was left at the Patent Office on June 14, 1932, bore some resemblance to my own small unit daylight factor grilles, illustrated by Mr. Stevenson in the *Journal of Scientific Instruments* in March, 1932, about three months before Mr. Waldram deposited his complete specification, should also be noted. No finer daylight factor grilles than those constructed in my office, with the assistance of the calculations of Mr. A. C. Stevenson, have yet been produced, and it is very unlikely than any better ones will ever be constructed. When they were published a very considerable amount of interest was aroused amongst all engaged in work of this kind. I fail to discover any evidence whatsoever that all work prior to Mr. Waldram's, in connection with daylight measuring apparatus and daylight factor grilles, was either crude or inaccurate. In my view, some of it was more advanced than anything he had produced at the time or has devised since. I am also entirely unaware of anyone who copied either his instrument or his daylight factor grilles. So far as I know, his claims regarding imitation of his work in connection with daylight factor grilles are purely imaginary, and have no foundation whatsoever in fact.

So far as I can follow Mr. Waldram's explanations in the time available, I gather that he is willing to accept one foot-candle as the standard of inadequacy, or "grumble point." I also gather that he does not repeat his claim that the sky illumination must be taken as uniform throughout the world. Nevertheless, quite what his contention now is does not appear too clear, despite all that he has written. As I am in possession of a complete copy of the transcript of the shorthand note of the evidence in the Gibraltar case, I am in no doubt regarding what his views were in June, 1934. He seems anxious to tell you that his client was granted an injunction, after a hearing by the Chief Justice and the jury, but this had nothing whatever to do with the acceptance of the principle upon which I worked. Mr. S. Benady, my client's counsel, took the view that, as regards varying sky brightness and a constant standard of inadequacy, I had convinced both the judge and jury. Their difficulty was in gauging the probable effect of a structure that had not been erected, and which could not be inspected. Mr. Waldram did not state that after the hearing the dispute was settled by an agreement and the payment to my client of the sum of £2,500, with costs, as reported in *The Builder* of September 21, 1934.

I notice that Mr. Waldram did not inform you also that I was an active member of the School Lighting Committee of 1930-31, to which he referred, being the representative of the R.I.B.A. He also omitted to state that on May 12, 1931, I produced, at a committee meeting, a large photograph of the photo-theodolite for which I subsequently obtained a patent and explained how it was being used. This was about five months before he applied for a patent for an instrument designed, without my own exclusive movement, to measure daylight similarly, by means of the area and location of visible sky.

I note that Mr. Waldram states that his patent "will, if necessary, be enforced." Those members of the profession who imagined that his research was available for unrestricted general use had better bear this warning in mind. Apparently, Mr. Waldram is overlooking the fact that patents are granted for the purpose of protecting operations, and that the precise details of daylight measuring grilles can only be protected by copyright.

JOHN SWARBRICK.

SIR,—On the question of the "Standard of Inadequacy," Mr. P. J. Waldram refers to Tech. Paper No. 7 (D.S.I.R. Illum. Research, 2nd Ed., 1932), maintaining that by then "sky brightness had disappeared altogether, and the standard 'grumble point' had gone back to the simple ratio," and that "'average sky brightness' has no meaning." There is no support in that publication for his isolated views, for on p. 9 we find "The figure of 500 foot-candles illumination may be adopted as that existing under the average condition of sky brightness which obtains in towns *in this country*" during certain specified periods, whilst on p. 10 is the unequivocal statement that "The minimum of adequate illumination, or the 'grumble point' as it is generally called, may be taken as one foot-candle" (the usual British approximate equivalent of the international 10 lux standard quoted in my letter), followed by an explanation that the grumble point means one foot-candle in the average illuminations in the periods referred to earlier.

The italics are mine and show that the Illumination Research Committee did not suppose that the average illumination of moderately dull days would necessarily be the same outside this country. Such statements as Mr. Waldram's above are, in addition, contrary to the entire outlook of the recent Tech. Papers Nos. 17 and 19.

As regards the discrepancies in Mr. Waldram's two-figure tables, revealed by the Swarbrick grilles and perspective diagram, and checked by independent calculation from an equivalent formula, he would appear to excuse these on the mere assertion that two figures constitute a refinement, which boders on the absurd. Instances of errors of two units in the second place in entries in Table III comparable in magnitude to the standard of inadequacy amount to 10 per cent. of their true values, which were nevertheless accurately assessed to two places by the Swarbrick grille. Rough justice of this order may suit Mr. Waldram, but is unsatisfactory to me, nor is it satisfactory evidence of a "technique of exact measurement" with which his paper was concerned. However much he may feel impelled to warn your readers against his own instrument and his own daylight factor webs (which constitute the "system" of which he is the patentee), it surpasses the absurd that he should imply by his inexact and exaggerated claims that the errors of his method are inherent in the increment-counting method generally; clearly they do not extend to the Swarbrick grilles (based on my calculations) which are independent of, and owe nothing to, Mr. Waldram.

This correspondence shows that it is only Mr. Waldram who "claims the system" of increment-counting, originally due to Pleier, improved by Kerr, Korff-Petersen and Wagner, later used or rediscovered separately in one form or another by Burchard, Swarbrick and Stevenson, Dufton and Beckett, as well as by Mr. Waldram. His lack of precision extends to words as well as figures, distorting an expression of indebtedness into an apology, and describing instruments which antedated his own as "far too crude and obviously inaccurate" and "forgotten failures," whereas their theoretical inaccuracies, if any, are of the order of those of his own daylight factor webs. These descriptions, unwarranted on sober study and precise estimation, are singularly unhappy in the particular case of Dr. Kerr, once a colleague of Mr. Waldram's on committees on the lighting of schools. His instrument was as accurate as Mr. Waldram's, which resembles the former to a marked degree.

A. C. STEVENSON.

Mr. Waldram's Replies.

Copies of the preceding letters have been sent to Mr. Waldram, who replies as follows:

SIR,—The letters of your two correspondents raise a number of new points. Your readers will doubtless have little difficulty in judging whether they clarify or confuse the very simple issues if they are dealt with seriatim, but quite briefly.

Appeals against the sealing of patents are, I believe, heard in the first instance by an Assistant Controller. If either side is dissatisfied by the decision of this court of first instance the case is re-heard, generally with counsel, before the Comptroller-General, with presumably a right of further appeal to the Appeal Tribunal.

Your first correspondent was present at the Patent Office when his case against my patent was formally presented in detail before the Assistant Controller by his patent agents and was contested by mine. His case failed, and was not further pursued, and the allegation of inaccuracy in my statement that he appealed against my patent is, to say the least, remarkable.

It is followed by a long series of references to grilles used for measuring angles by a "photo theodolite." These have no connection whatever with the totally different grilles, now under consideration, devised for measuring daylight factors. Laborious citations of the rough sketches of daylight factor grilles which illustrated reports in the technical Press of the first exhibition of my instrument are adduced as proof of the superiority of those in the manuscript sent to the Editor of the *Journal of Scientific Instruments* some months later by his friend. Long before this was subsequently published, the grilles used in my instrument had been made, used in the instrument, and tested rigidly for accuracy.

Had Mr. Stevenson's grilles been published in time and had they been suitable I should most certainly have been only too glad to have used them. Both my staff and I had then quite a few other things to do; but they were neither in time nor suitable.

Exhaustive details were published in the *Journal R.I.B.A.* to enable anyone to make grilles for himself for use with any ordinary camera. In a reprint published by Messrs. P. S. King and Son, "The Use of Photographs in Town Planning and Design," attention is drawn to the fact that anyone is at liberty to make such grilles for his own use without regard to my patent.

The warning as to the enforcement of my patent is directed to the sale of instruments infringing it. The statement in your issue of August 27 as to only one "daylight factor theodolite" having been made remains unanswered.

Also unanswered are the statements in that issue that this "photo theodolite" was devised, patented and advertised solely as an instrument for measuring angles.

Even presuming that its direct anticipation in the paper published by my son and myself in 1923 had been unnoticed; and also presuming, as your correspondents allege, that Pleier, Kerr and others had long before produced practical and usable daylight factor grilles, the fact remains unanswered and unanswerable that neither of your correspondents claims to have made the slightest attempt to devise or use daylight factor grilles for the "photo theodolite" until some months after the first sketches of my daylight factor grilles had been published.

Your readers will doubtless rub their eyes over the account of the Gibraltar case. We are told that the judge and jury were so convinced by the evidence on behalf of the defendant that the high sky brightness of Gibraltar would effectively mitigate the anticipated injury, that after the jury had been asked to visit and consider similar buildings in the same street obstructed to the extent proposed they found the alleged injury to have been proved; and that after my client the plaintiff had been granted an injunction with costs he "settled the case" by paying the defendant £2,500 with costs.

Some time after the case I was asked jointly by both sides to define how high the plaintiff's existing very low building could be raised without causing actionable injury. Before I could comply I was informed that the plaintiff had agreed to purchase the right to have the defendant's building kept down altogether in order to retain a very exceptional view over Algeceiras Bay, to which, of course, he had no legal title. I was not informed as to the amount paid, but even the large sum mentioned plus some relief from the liability for costs does not seem excessive in crowded Gibraltar.

I fully appreciate Mr. Stevenson's difficulty in understanding how it is that when the "grumble point" ratio gives 1 foot candle on a dull day with a sky brightness of about 500 foot candles it still remains a "grumble point" when it represents, say, 10 foot candles on a bright day. I puzzled over precisely the same mental difficulty years ago, and so did the International Committees from 1926 to 1932. It is, however, useless to attempt to convince people that theoretically they ought not to grumble about eye strain when working indoors in positions from which nearly all sky is cut off by obstructions in June in England, or even in Gibraltar or Bombay. They will do it.

PERCY J. WALDRAM.

9, Gray's Inn-square, W.C.1.

[This correspondence is now closed.—Ed.]

COMPETITION NEWS

New Bathing Establishment, Dun Laoghaire.

The Dun Laoghaire Borough Corporation invite architects and engineers to submit designs for a bathing establishment and surrounds, including a 330-ft. swimming-bath and accessories, café, promenade development and ornamental gardens, to be situated at Sandycove. The competition is open to architects and engineers of Irish nationality resident in the Irish Free State, and architects and engineers of other nationalities resident in the Irish Free State for at least the past five years. The premiums will be £400, £250, and £100. Conditions and plans may be obtained from the Borough Manager and Town Clerk, Dun Laoghaire Borough Corporation, Town Hall, Dun Laoghaire, on deposit of £2 2s.

Elementary Schools, Coventry.

Mr. W. T. Benslyn, F.R.I.B.A., assessor in the competitions limited to Coventry architects for (a) an elementary school on the "Hill Farm" Estate, Coventry, for juniors and infants, and (b) an elementary school for senior boys and girls on the "Oakhurst" site, has made his award as follows:—

The "Hill Farm" site: 1st, Messrs. C. Redgrave and Son, 6, The Quadrant, Coventry (£100); 2nd, Mr. R. Hellberg, 13, Queen's-road, Coventry (£50); 3rd, Messrs. Hattrell and Wortley, 1, Queen's-road, Coventry (£30).

The "Oakhurst" site: 1st, Mr. R. Hellberg, 13, Queen's-road, Coventry (£100); 2nd, Messrs. T. R. J. Meakin and Son, 11, Warwick-row, Coventry (£75); 3rd, Messrs. C. Redgrave and Son, 6, The Quadrant, Coventry (£50).

The plans are on exhibition at the Art School, Ford-street, Coventry. The competitions were organised by Coventry Local Education Authority.

Newcastle-on-Tyne Town Hall.

The special committee of Newcastle-on-Tyne Corporation charged with the task of advising upon the design of the new municipal buildings proposed, are to recommend an open competition for plans, the assessor to be appointed by the R.I.B.A.

MODEL BY-LAWS—XIV

By W. T. CRESWELL, K.C., assisted by NORMAN P. GREIG, B.A., Barrister-at-Law.

SPACE ABOUT BUILDINGS.

Space in Front of and at Rear of Buildings.

To allow of a free circulation of air it is necessary to provide sufficient space about a domestic building both at the front and rear of the building. Such provision is regarded as essential to the healthiness of such a building.

By-law 80 requires that in front of a domestic building, *i.e.*, a dwelling-house, shop, office building, or any other building which is neither a public building nor a building of the warehouse class, intended to be used wholly or partly for human habitation, extending to a distance of not less than 24 ft. throughout its frontage, there shall be an open space. This distance is to be measured at right angles to the building to the boundary of any land or premises immediately opposite, or, in the case of a building fronting on a street, then to the opposite side of the street. If, however, the building fronts on to a street of a less width than 24 ft., the distance must not be less than the width of the street, together with half of the difference between that width and 24 ft. Thus, if the street is 16 ft. wide, the distance =

$$16 + \frac{24-16}{2} = 16 + \frac{8}{2} = 20 \text{ ft.}$$

An open space within the curtilage of and in front of the building, that is, within the boundary of the building, must be left quite clear above the ground level, except for a fence or wall not exceeding 7 ft. high, or a portico, porch, steps, or other like projection from the building, or a gate.

One objection which has been raised in respect to such a by-law is that the onus is placed upon the person who first erects or re-erects a building on one side of a narrow street to provide sufficient land in front of his building to comply with the by-law, whereas the person opposite, who may be erecting or re-erecting his building at a later date, is not in consequence under an obligation to provide a space, it having already been provided.

Space at Rear of Buildings.

The open space at the rear of a domestic building intended to be used wholly or predominantly for human habitation must be at least 150 ft. super, extending throughout the entire width of the building. In order to ensure that this space shall not be a long but narrow space, it is required (by-law 81) that its distance or width from the line of the rearmost wall of the building and from any projection from the building to the boundary of any lands or premises immediately in the rear of the building shall be not less in any part than:—

15 ft., if the height of the building is not more than 25 ft.;
20 ft., if the height of the building is not more than 35 ft.;
25 ft., if the height of the building is not more than 50 ft.

Provision is made, however, for an irregular shaped site, and where the open space cannot be obtained throughout the entire width of the building. Then, the mean distance across must be not less than the required minimum distance.

Buildings over 50 ft. in Height.

By-law 82 requires that in respect to buildings of the class referred to in by-law 81, over 50 ft. high, the distance across the open space must equal at least half the height of the building, and if this is unobtainable at the rear, by the shape of the site, the minimum space required may in part be made up at a side of the building other than the front.

Buildings on Sites Abutting on Two or more Streets, and Re-erected Buildings.

By-law 83 permits, in respect to such buildings to which by-laws 81 and 82 apply (see above), that, where it is not reasonably prac-

ticable to apply them, the requirements as to open space at the rear, or on one side of the site, other than the front of the building or clearing belonging to a building, shall (*a*) in the case of a new building, be at least 150 ft. super, and (*b*) in the case of a re-erected building, a space not less than that which previously existed; and in no case less than 100 ft. super. Such space must extend throughout at least 10 ft. of the width or depth of the building, and for a mean distance across of not less than 10 ft. It must either abut on a street, or be connected with a street by a passage or other similar opening so arranged as to be capable of affording at all times a free circulation of air between the open space and the street.

This by-law appears to lessen, in certain circumstances, the minimum space of 150 ft. super, and by permitting it to be entirely at the side of a building, to permit of "back-to-back" houses of a kind being erected, which is undesirable. There should always be some space at the rear of a building, even if allowed at the side too.

Measurement when Lower Storeys are used for Trade, etc.

By-law 84 states that when in a building the accommodation for human habitation is wholly above the ground floor, the open space at the rear of such building is to be measured at the level of the lowest floor provided for in the building for human habitation; also the height for the purpose of these by-laws as to space is to be measured from the same level. This requirement ensures that there will be no impediment (such as is caused when the ground rises at the rear precipitously, as in hilly districts) to the free circulation of air at the required level.

Open Space to be free from Erections.

By-law 85 states that the space at the rear required by by-laws 81, 82 or 83 is to be free from erections thereon above the level of the ground. A water-closet, earth-closet or privy, or an ashpit may, however, be erected.

When the measurement is taken as under the last by-law (84), the open space is to be free above that level from any erection, except that a parapet, ventilator, lantern light or skylight not exceeding 3 ft. above that level, or a chimney-stack, may be erected.

Stables.

By-law 86 requires that a building intended to be used as a stable in connection with a domestic building (defined as above) shall have an open space adjoining and exclusively belonging to the stable of not less than 150 ft. super, and the only thing which can be erected above the ground level is a suitable dung-pit.

Alterations, etc., to Buildings.

By-law 87 states that no alteration or addition shall be permitted to a building which lessens the open space about a building required by the by-laws. This is as it should be, for the minimum space required is comparatively small.

HAMMERSMITH SCHOOL OF BUILDING

THE following lectures are to be given at the L.C.C. Hammersmith School of Building and Arts and Crafts during the forthcoming session. The lectures, which are free to students attending the school, are due to begin at 8 p.m.

"Modern Furniture" (G. Russell), Thursday, October 21. "Building Through the Ages" (E. Holden, M.R.San.I.), Tuesday, November 9. "Interior Decoration" (E. M. Dinkel, A.R.C.A.), Thursday, December 9. "Roofing Tiles" (C. G. Dobson, P.A.S.I.), Monday, January 24. "Furnishing" (Serge Chermayeff, F.R.I.B.A.), Thursday, February 17. "Identification and Uses of Timber" (E. H. B. Boulton, M.C., M.A.) (Timber Development Association, Ltd.), Wednesday, March 16.

THE INSTITUTE OF WELDING

PRESIDENTIAL ADDRESS.

THE progress of welding was reviewed by Sir Alexander Gibb, G.B.E., C.B., in his presidential address to the Institute of Welding, given on October 8, at the Institution of Mechanical Engineers, Storey's Gate, S.W.

"In the two years during which I have presided over its [the Institute's] activities," he said, "we have been engaged in extending the basis of the Institute and building the framework of an organisation which should be able to deal with those technical questions to which the application of welding to the various engineering and manufacturing industries has given rise. The strength and influence of the governing council has been increased by the inclusion of leading industrialists in the various groups of industry, the administrative staff has been reorganised and strengthened, and research and technical committees have been set up embracing in their several sections many of the ablest engineers, metallurgists and scientists in the industries involved.

"With the opening of this session, the Institute sets out on its new career, and it is appropriate that at this time we should take stock of the position. The year which has just passed has been characterised not only by a great increase in the volume of welded construction but by improvements in equipment, materials and technique, and a growing demand for technical information on all the operations and effects involved.

"Stimulus has been given to oxy-acetylene welding by the perfection of a new technique resulting in greater economy and speed. In electric welding new types of electrodes have been introduced which, in addition to giving better mechanical results, enable considerably greater welding speeds than heretofore to be obtained, and further developments involving further increases in speed of welding are foreshadowed. Substantial development has taken place in the design and particularly in the speed, capacity and the now highly accurate control of the current and forging pressure in the various kinds of resistance welding plant."

Structural Engineering.

Referring to structural engineering, the speaker said: "During the past year there has been a tendency on the part of large steel-making firms who own structural subsidiaries to concentrate on welding as a means of fabrication. Much of the work so produced has been used in the extension of steel works plant and has not yet affected to any great extent the outside market. The advantages of welded construction for heavy plate girder gantries and other plated structures has been demonstrated conclusively as to economy in weight, labour, cost and improved appearance.

"A considerable number of single-storey hall and mill building portal frame structures for which welding is particularly well adapted have been built throughout the country, and a number of building structures of more or less conventional design have been welded. A factory building of saw tooth roof construction with continuous main girders spanning up to 260 ft. and secondaries of 125 ft. using 1,000 tons of steel is in course of erection in the north of London. In Leeds a block of 500 flats also with about 1,000 tons of steel has been built in combined steel and concrete construction, the joints of the steel frame being designed to take advantage of continuity secured by welding. Two special types of structure are worthy of mention which take advantage of characteristic features of the welded joint. A number of roof structures has been built by means of a diagonal grid of joist members of uniform depth, the rigid joints of which convert it virtually into a flat slab in which the bending movements in the individual pieces are reduced to a fraction of what they would be if freely supported, resulting in a light construction of uniform and unusually small depth.

"Possibilities in the use of light gauge steel sheet corrugated to give the necessary strength and rigidity has been demonstrated by the erection of the framework, walls and roof of a factory building. A spirally guided welded gasholder of 2,000,000 cub. ft. capacity and a fixed type waterless gasholder of 3,000,000 cub. ft. capacity are in course of construction. The use of welding in the construction of large tanks for the storage of oil and petrol is extending rapidly.

"In comparison with Continental countries, the development in the use of welding for steel bridges and building structures in this country has been disappointing. In Germany and Belgium the technique of design and construction has already been developed to a high degree of refinement, and the number of bridges erected is in hundreds. The saving in weight and cost originally claimed are reported to have been maintained. Up to the present time most of the firms engaged in the fabrication of steel structures have shown reluctance to introduce the new method of construction, probably on account of the large amount of capital invested in the plants laid out for riveted construction. The present acute shortage of steel, however, emphasises the desirability of taking advantage of any possible savings in the weight of steelwork, and the 10-15½ per cent. overall saving that may be expected to result from the general use of welding in structural work is too great to be lightly disregarded. Continental progress has been greatly assisted by co-operation between the designer, steelmaker and welder, whereby the maximum advantage of welding technique has been realised by the use of special yet simple sections and flats."

Concluding, the speaker said: "It is understood that the long awaited report of the Panel of the Steel Structures Research Committee on the statistical examination of welded joints is about to be issued, and, although it cannot reflect the very latest practice, it will act as a useful guide to the quality of workmanship which can be expected under normal conditions. As this report refers only to arc welding, it would appear necessary for a similar type of report to be issued on the oxy-acetylene and other processes of welding. . . . In general, the knowledge and experience available is quite sufficient for working safely in the types of construction to which welding is being applied, and no major developments are being prevented for technical reasons, but in nearly all applications lack of sufficient accurate information is preventing advantage being taken of the full economies which can be made.

"On the matter of regulations, a committee of the Institute has prepared a draft code of practice for the use of welding in buildings. This draft is now under consideration by the London County Council and it is hoped that it will form the basis of a new Building By-law to be issued at an early date. On the basis of this code of practice a Welding Design Handbook is in course of preparation giving information on the properties of sections and arrangements of sections, load carrying capacity of welds and welded joints, and other information for use in the design of welded structures."

A New Indian Reservoir.

A major Indian irrigation scheme, on which work is now due to start, is the Marconahally Reservoir in the Tumkur District of Mysore. The project is estimated to cost £165,000, and the total area covered is 11,700 acres. The total catchment area of the reservoir is 1,584 square miles, of which 130 are independent. The annual average rainfall in the locality is nearly 27 inches. The total yield from the whole catchment is estimated to 56,264 units. The composite dam will comprise 456 feet length of masonry dam and two earthen flank bunds 2,508 and 2,310 feet respectively. The dam is pierced for a length of 144 feet, more or less in the centre, with six sluices. Six automatic shutters are proposed to be installed in the remaining length.

SCOTTISH COTTAGES AND FLATS

ELIMINATING THE MASON AND THE BRICKLAYER.

THE shortage of skilled bricklayers and masons in Scotland, particularly in Glasgow, has for some time been so acute as seriously to impede construction, not least municipal housing work. In an attempt to ease the situation the Glasgow Corporation conducted an architectural competition, open to all British architects, for plans and designs for a flatted block of four 4-apartment houses, to be capable of erection in materials other than stone, brick or pre-cast concrete blocks, but of a permanent nature—the method of construction to be such as practically to eliminate the employment of masons or bricklayers. Concurrently, a competition was organised for a block of semi-detached five-apartment cottage houses.

The assessors were Mr. John Wilson, F.R.I.B.A., Chief Architect, Department of Health for Scotland; Mr. T. G. Gilmour, F.R.I.B.A., Chief Architect, Glasgow City Engineer's Department; and Mr. J. H. Ferrie, L.R.I.B.A., Principal Architect, Glasgow Housing Department. Their award was given in our issue for June 18.

In connection with their Kelvin Hall Housing and Health Exhibition, now being held in Glasgow, the Corporation have erected the winning design in the 5-apartment cottage competition (by Mr. M. Cormie); the winning and second designs in the four 4-apartment flatted house competition (by Messrs. John G. Tedcastle, A.R.I.A.S., and L. J. Pond, and Mr. R. E. Whiteford, respectively); and also a design got out by Glasgow Corporation architectural staff, under conditions identical to those for the 5-apartment cottage.

FIG. 1. FIVE-APARTMENT COTTAGE.
MR. M. CORMIE, ARCHITECT.

FIG. 2. FIVE-APARTMENT COTTAGE.
DESIGNED BY GLASGOW CORPORATION ARCHITECTURAL STAFF.

FIG. 3. FOUR-APARTMENT FLATS.
MESSRS. JOHN G. TEDCASTLE, A.R.I.A.S., AND L. J. POND, ARCHITECTS.

Five-Apartment Semi-detached Cottage.

The winning design in this competition is shown in Fig. 1. Each house comprises living-room, four bedrooms, kitchenette, larder, and coal-house. A feature of the living-room is the dining recess with service-hatch direct to kitchenette. The latter is fitted with combined sink and wash-tub, gas-heated wash-boiler, gas-cooker, and cupboards. One bedroom is on the ground floor and the remaining three, with bathroom and linen store, on the first floor. The houses are in brick finished in white. Windows are standard steel casements.

The Glasgow Corporation's five-apartment cottage is shown in Fig. 2. It is constructed on the cavity wall principle, and the external brickwork is rough-cast with Scottish white granite chippings and the roof covered with Aberfoyle random slates. On the ground floor are living-room, wide hall, scullery, two bedrooms, and two cupboards. A grate, with copper boiler which gives domestic hot-water supply, is fixed in the living-room. The scullery is fitted with sink, wash-tub and gas-heated wash-boiler. A gas-oven and grill for cooking are fixed on top of a fitment and coal-bunker. A larder is provided in the scullery and a pram may be put in the cupboard under the stairs. Upstairs are two large bedrooms, bathroom and w.c. (combined), and two cupboards. The design was prepared under the direction of Mr. W. B. McNab, Director of Housing.

Four-Apartment Flats.

Fig. 3 shows the first prize design in the competition for four 4-apartment flats. Poured cellular concrete is the method adopted. Each flat contains a living-room, three bedrooms, kitchenette, bathroom, etc. The living-room has a combination grate. The three bedrooms enter from the hall. The elevations show a simple though modern tendency. The roof is flat.

The 8-in. walls and 4-in. partitions are of solid cellular concrete. The mixture of hard, clean aggregate and cement is poured in one monolithic mass of a very open honeycomb nature, giving a warm, dry wall under all conditions. The outside is finished with cement harling, coloured, while the inside

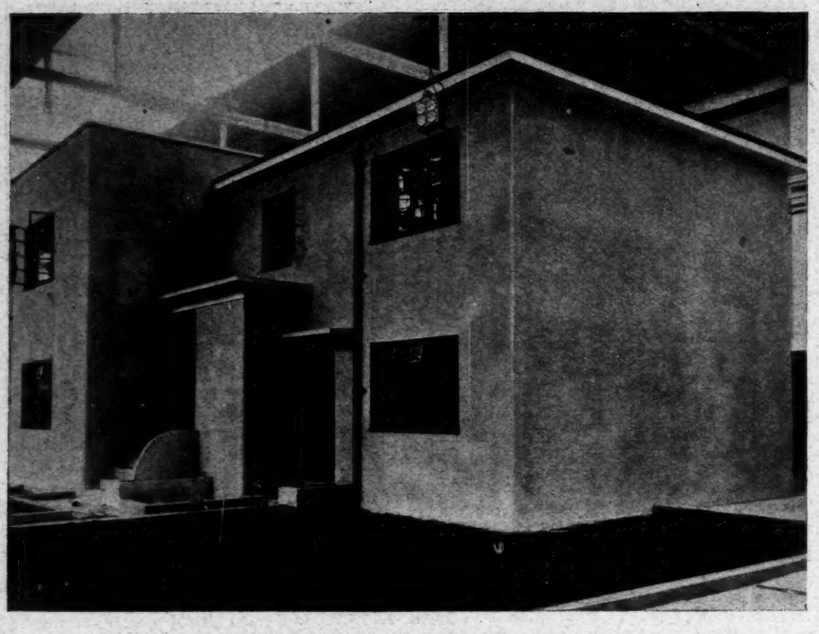


FIG. 4. FOUR-APARTMENT FLATS.
DESIGNED ON "WHATLING" SYSTEM BY MR. R. E. WHITEFORD.

may be plastered direct. The patent shuttering within which the concrete is poured is of pressed metal panels and wood posts, and is so designed that the panels are easily removed from the lower storey for use on the upper storey. The posts and shuttering also support temporary steel panels for the 6-in. reinforced concrete floors and flat roofs.

Figs. 4 and 5 are of the second prize design for the 4-apartment flatted house. Each flat has its entrance from the front of the house, which results in the halls of the upper flats being more spacious than usual and considerably shortens the flight of steps down to the front doors. Ivory white walls, soft green base and centre coping, and the flower-boxes marking the sides of the entrance doorways add a decorative note. Each flat contains a living-room, kitchenette, three bedrooms and bathroom. The living-room has a special back-to-back grate incorporating a service hatch from the kitchenette and a switch plug for electric iron or radio. The sleeping accommodation is planned round a small lobby away from the living-room and kitchenette, and consists of three bedrooms. Window sashes are of steel in wood frames.

The flats are on the Whatling system of *in situ* cavity-wall construction, which has been used on several large housing schemes—notably at Ipswich, Leeds (under the direction of Mr. R. A. H. Livett, A.R.I.B.A.), Birmingham, and Lanark. This system was fully illustrated and described in *The Builder* for September 17 last, but, in short, it is particularly intended for the erection of mass-produced houses, as the keynote is the use of formwork specially prepared in sections to the architect's design. Each set of formwork can be used, it is claimed, for approximately 75 houses. The only difference between houses erected on the Whatling system and the ordinary cavity-wall brick house is stated to be that the shell is of concrete and not of brick. A section of walling is shown in Fig. 5.

The system is not a new one (the initial scheme for Ipswich Corporation was built 12 years ago), but is receiving special attention at the present moment in view of the fact that 75 per cent. of the labour can be unskilled. As we go to press we learn that Lanarkshire C.C. is proceeding at once with a scheme for the erection of 160 houses on this system.

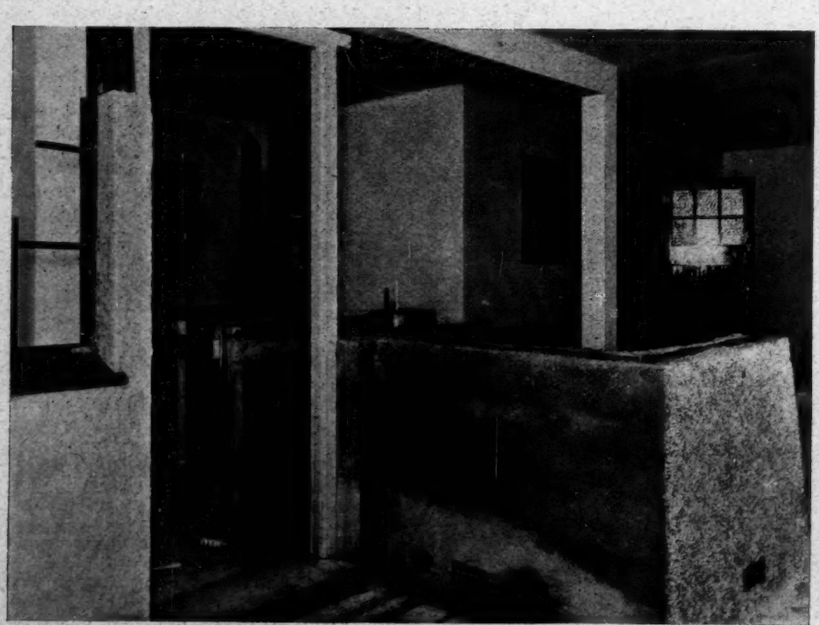


FIG. 5. VIEW SHOWING SECTION OF CAVITY WALLING OF THE "WHATLING" FLAT.

AN "INTERNATIONAL BUILDING CLUB."

DETAILS have reached us of a newly-formed professional club, the International Building Club. This is designed to cater exclusively for approved members of the building industry and its allied trades. The scope of its membership covers all occupations and trades professionally connected with building—that is, with its architecture, its materials, its letting and marketing. Sir Harold Bellman, M.B.E., J.P., managing director and chairman of the Abbey Road Building Society, will be its first president, and we learn that the club is receiving the co-operation of a number of distinguished gentlemen, representative of many of the businesses and professions connected with the building and allied trades, who will serve as vice-presidents.

Membership of the Club will be kept exclusive, and after January 31 next, prospective candidates for election will be required to be proposed and seconded in accordance with established club practice. Prior to that date, however, admission to membership will be at the discretion of the executive committee. All members who reside in the Metropolitan Police Area, and who are elected prior to January 31, will be classed as founder members, the subscription for whom will be £5 5s. per annum so long as they remain members of the club. Members who reside outside the Metropolitan Police Area will be classed as country members, the subscription for such members being £3 3s. per annum. Country members will be entitled to all the amenities of the club. Associate members may also be elected wherever they may reside, and, save that it will not be permissible for them to use the Club premises, they will be entitled to all other privileges and benefits of the Club. The subscription for associate members will be £1 1s. per annum. Foreign and overseas members may also be elected, and the subscription for such members will be £2 2s. per annum.

The organisation of the Club on the Continent of Europe and in the United States of America, we learn, has been undertaken by club members represented on the executive committee, and foreign and overseas members when visiting this country will be invited to use the Club as their headquarters. Such members will be entitled to full use of the Club premises for the duration of their stay in this country, and the Club secretary will arrange to forward letters, make appointments, give introductions and assist foreign and overseas members to make contact with other club members representing branches of the building and allied trades. In order to avoid any liability attaching to members beyond the entrance fee and annual subscription, the Club will be controlled by a private limited company. It is anticipated that Club premises will have been taken prior to the end of January next. The work of conversion and adaptation of selected premises will be undertaken by a practising architect, who will be a member of the Club.

Amenities of the Club.

The organisers anticipate that they will be able to offer attractive and adequate accommodation in the way of club premises. The Club will, when necessary, consider questions and matters affecting the building and allied businesses and professions. If there is a sufficient demand for this advisory service, the Club will collect, distribute and publish statistics and information of interest to members. It may also organise, or assist in holding meetings and conferences, whether in the United Kingdom or elsewhere, for the promotion and furtherance of the building and allied businesses and professions. All the usual club amenities will be available to members, together with a private dining-room for special parties. The Club will be fully licensed. Other social activities will include a Golf Circle and Automobile Club, while before the end of 1938 it is hoped that a squash court will have been added to the premises. The secretary is Mr. J. F. L. Lawler, 35, Basildon-court, Devonshire-street, W.1.

THE BUILDING RESEARCH STATION

QUESTIONS AND ANSWERS.

THE following are abstracts of inquiries recently submitted to the Building Research Station.* The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for general application to all similar problems.

Salt in Sand.

A builder stated that for a particular job the best available sand was a sea sand containing a proportion of shell. It was proposed to use this material for mortar, external rendering and internal plastering, and information was desired on any harmful effects which might arise.

REPLY.—The use of unwashed sea sand may lead to dampness and discoloration of plaster and mortar, and it should on no account be used. Even sands from river estuaries, where the sea water is diluted with fresh, can cause trouble, and one case was investigated where serious corrosion of the screws and clips fixing electric light conduit, and also of the switches, occurred from this cause. The danger of the use of sea-shore sand can therefore be appreciated.

The dampness in plaster in which sea sand is used is due not so much to the "salt" (common salt : sodium chloride) it contains, as to the more hygroscopic chlorides of calcium and magnesium associated with it in sea water.

It should be appreciated that the troubles arising from the presence of sea salts in sand are most difficult to treat. Stripping and replastering is the least expensive procedure that can be recommended unreservedly, and there is no absolute assurance of success, for the salts causing the dampness may have been absorbed in part by the body of the wall.

The sand can be purified by thorough washing in a sand-washing machine, and if this cannot conveniently be done, an alternative source of sand, e.g., pit sand, should be sought. The shells in the sand will themselves do no harm, but the fact that they tend to retain salts more strongly than sand grains is a reason for recommending thorough washing of the sand.

Effect of Molasses on Concrete.

An architect asked whether the cement face of a concrete tank was likely to be attacked by molasses, and, if so, what means could be suggested for protecting the concrete.

REPLY.—Sugar solutions in general cause some attack on Portland cement concrete, but the rate of attack varies very widely with different conditions. Aluminous cement is more resistant than Portland cement, though it is not immune from attack. An aluminous cement rendering has, it is believed, been used in some cases with satisfactory results. The only definite information available with regard to molasses is that contained in a short paper by M. N. Clair and M. A. Morrissey (Engineering News Records, III., 775 (1933)). Without attempting to reproduce the paper in full, the following general conclusions may be given :

"Concrete tanks have been used to some extent in the U.S.A. for the storage of molasses, in some cases with satisfactory, and in other cases unsatisfactory results. It was concluded that light, refined molasses have a more aggressive action than dark molasses. It was recommended that concrete should be treated with three coats sodium silicate solution. After treatment the concrete should be allowed to age for at least 28 days before exposure to the molasses."

The use of a tar or bituminous coating is recommended in some of the German literature.

The following specification is given by the American authors, but the Building Research Station has no first-hand experience of its efficacy.

1. The surface of the cement should be freed from dust and grease.

2. The concrete should be allowed to become reasonably dry before treatment, to ensure a maximum absorption of the silicate.

3. If the concrete is dense and well matured, three separate applications of the silicate should be sufficient. An interval of not less than 24 hours (more if possible, since drying in the interior of the tank is likely to be slow) should be allowed between successive coats.

4. In applying the solution, care should be taken to ensure that the whole of the surface is well wetted at each application. Thus the solution might first be sprinkled generally over the surface with a watering-can, and then a further quantity applied freely with a scoop or brush. This process should be repeated at each coating.

5. Strength of solution :—

For the first coat : 1 part silicate of soda to 4 parts water.
For the second coat : 1 part silicate to 3 parts water.
For the third coat : 1 part silicate to 2 parts water.

6. The grade of silicate of soda used should be one of high silicate-soda ratio, *e.g.*, $3\frac{1}{2}SiO_2 : 1Na_2O$ to $2\frac{1}{2}SiO_2 : 1Na_2O$ (Proprietary grades approximating to this composition are available in this country.)

7. After the final treatment, the concrete must be allowed to dry thoroughly. After this has been done it will be advisable to brush off any efflorescence which appears before putting the tank into use, to avoid contamination with soda.

Corrosion of Lead in Roof.

An architect reported that the lead covering the roofs of the nave and aisles of a church roof showed thick white deposits on the underside. Where decay had occurred the lead had been laid on felt on oak boards; on the chancel roof, lead had been laid direct to deal boards without felt, and no corrosion had occurred. Information was required on the cause of the corrosion and on precautions which should be adopted in relaying the lead.

REPLY.—The corrosion product has the appearance of white lead, which has been found in numerous cases where lead has been laid on oak roofing. The white lead is produced by the action of mild acidic substances. There would, however, in this instance, appear to be two alternative possible explanations of the corrosion of the lead :—

1. The sarking felt may contain some substance of a mild acidic nature capable of causing progressive corrosion of lead. The kind of felt which was used is made nowadays from a mixture of jute and hair bound with a complex mixture which may contain wood and coal tars, creosote and resin. It is possible that some constituents of the mixture used can cause corrosion of lead, but probably a lengthy chemical examination, to confirm or disprove this, is hardly necessary.

2. Oak under moist conditions can cause corrosion of lead, since the timber contains substances having a slight acidity. A sheet of impervious felt should therefore be used whenever lead is laid on new oak, and this will prevent acidic substances from the oak from reaching the metal. The sarking felt used on the church was not of the impermeable variety, and some acidic vapours may have passed through the felt from the oak.

Whether either of the two above-mentioned causes is of greater importance is probably immaterial. As regards fixing new work, it will be desirable to insulate the lead from the timber by a layer of pure bitumen felt. The grade 1C in the British Standard Specification No. 747 would appear to be the most suitable, and a sheet of paper should be used between the felt and the lead to prevent any possibility of the metal sticking.

Further information on the corrosion of lead may be found in Building Research Technical Paper No. 8, which may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, price 1s. net.

Sound Absorption of Plaster.

An architect required information regarding plasters for walls and ceilings of a new office building to afford a moderate degree of sound absorption. It was stated that he was inclined to regard hard plaster finishes as undesirably noisy.

REPLY.—The reverberation time of a room is one of the criteria of comfort, and in the present instance it appeared that the architect was prepared to devote special attention to its adjustment.

The reverberation time of any room is chiefly dependent on two factors : (*a*) the volume of the room; (*b*) the sound absorption coefficient of the materials which line the boundaries and of the furnishings.

Assuming a constant volume for any single room, then the reverberation time will decrease with an increase in the amount of absorption. As the furnishings and floor finish can in this case be regarded as a fixed quantity, it remains to consider what treatment is appropriate for the walls and ceiling.

The ordinary types of wall plaster, from the soft lime finishes up to Keene's cement and other hard finishes, have absorption values ranging from 1 to 3 per cent. (open window representing 100 per cent. absorption) and, in rooms with the normal content of furnishings, increase in total sound absorption due to the use of a soft lime plaster in place of a harder finish is virtually negligible. To obtain an appreciable effect by treatment of wall and ceiling surfaces it is usually necessary to have recourse to special acoustic absorbents with absorption values ranging from 20 per cent. upwards. It is suggested that in the present instance the problem could be dealt with in one of two ways :—

(*a*) To use a *moderate area* of acoustic plaster,
or (*b*) to use an alternative type of material such as wallboard.

There are two objections to covering the walls and ceiling entirely with acoustic plaster. The room might change from an extreme of too much noise to an extreme of too much quiet. In the latter condition, not normally experienced, small noises might become as annoying as the larger noises were previously, and there is a sensation of being confined in a small space, which is unpleasant. The other objection is that due to the friable nature of absorbent plasters, their use on walls is often undesirable, at any rate up to shoulder height. A satisfactory solution for smaller rooms is to cover the ceiling with a moderately absorbent acoustic plaster, and to use hard plaster or any other suitable material for the walls. An inherent advantage in this method of treatment is that traffic noises coming through the windows from below impinge directly on the absorbent and lose appreciably in loudness.

Acoustic plasters can be supplied white, or in a coloured mix. Their surface finish is quite pleasant, but decoration applied to them must be carefully done. Distempering or painting will at once reduce them to the effectiveness of hard wall plasters, by sealing the pores. Stippling and staining can be done to some degree, and the manufacturer will usually supply directions.

The other alternative to achieve quietness in small rooms is to use fibrous wallboards, wood-panelling, or similar materials. Over-correction is not likely to occur with these materials, and they can replace plaster entirely. Any of them having a fair value of sound absorption must be decorated in accordance with the maker's directions if the absorption is to be retained, although their additional mode of absorption by resonance will afford some advantage over hard plaster finishes under any conditions.

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LAW REPORT

KING'S BENCH DIVISION.
Before MR. JUSTICE HAWKE.

ALLEGED DEFECT IN A FITTING.

Dransfield *v.* British Insulated Cables, Ltd.

THIS was an action brought by Mrs. Ruth Dransfield, of Bournemouth, under the provisions of the Fatal Accidents Act, 1846, and the Law Reform (Miscellaneous Provisions) Act, 1934, against British Insulated Cables, Ltd., to recover damages in respect of the death of her husband, Mr. H. Dransfield, who at the time of his death was a linesman in the employ of the Bournemouth Corporation. Mrs. Dransfield sued on behalf of herself and her three infant children.

The material facts were that in November, 1935, the Bournemouth Corporation was engaged in converting its tramways to trolley-bus operation, and on November 19, Mr. Dransfield was knocked off the platform of an overhead wagon on which he was working, sustaining a fracture of the skull, from which he died soon afterwards. Mrs. Dransfield's case was that the accident to her husband was due to the breaking of a "bull-ring," through which the trolley-bus wire was passed, and which had been manufactured and supplied by the defendants to the Bournemouth Corporation, and that the accident was caused by the negligence of the defendants on the ground that the "bull-ring" was of inferior metal, joined by means of a butt-weld, which was defective, in that fusion had taken place over only about one-third of the section's surface.

The defence was a denial that the accident to Mr. Dransfield was due to any negligence on the part of the defendants. Alternatively, the defendants pleaded that if the "bull-ring" was defective because it was not strong enough for the purpose for which it was being used, or by reason of the defects alleged by the plaintiff, such condition was discoverable by the Corporation, its servants or agents, after the "bull-ring" had been supplied. Defendants further pleaded that they had no knowledge of any of the defects in the "bull-ring" alleged by the plaintiff, and denied that in the circumstances they were under any duty to the deceased man in the matters complained of.

In the course of the hearing, Mr. Justice Hawke held that there was *prima facie* evidence of negligence in the welding, and evidence on that issue having been given on behalf of both parties, and the arguments of counsel having been heard on the question whether in the circumstances Mrs. Dransfield had a legal right to maintain the action against the defendants, British Insulated Cables, Ltd., his lordship reserved his judgment.

In giving judgment his lordship said a great deal of evidence was given during the hearing of the action, followed by lengthy legal arguments. Having given full consideration to the case he came to the conclusion that there had been negligence in the making of the "bull-ring." Its condition was such that ordinary tests would have disclosed that there was actual negligence in the act of welding and the proper inspection of the article. But that being so, there was a second question, viz., whether there was any relation between the deceased man and the defendants so as to make it the duty of the latter to take care. A decision on that part of the case rested upon the decided legal authorities. In the present case that one factor of proof was lacking, and with some regret he came to the conclusion that he must give judgment for the defendants with costs.

His lordship said that in case a higher court took a different view from him on the law, he would assess damages on the assumption that he was wrong. He accordingly held that under the Fatal Accidents Act, Mrs. Dransfield would be entitled to receive £1,800 and her children £540; and on the question of the expectation of the life of the husband under the Law Reform, etc., Act, he would award £500, which brought the amount of the damages in all to £2,840.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

We do not undertake to reply to inquiries concerning proprietary materials.—ED.

QUESTIONS.

Distemper.

How to Set Up as Jobbing Builder.

SIR,—I wish to start business on my own, carrying out repairs and decorations to property. Would some of your experienced readers be kind enough to furnish me with information necessary? I have a fair, all-round knowledge of the various trades that touch on the subject, and have carried out several jobs in my spare time during the last ten years, getting recommendations from quite a number of clients for work done.

SIX YEARS READER.

Vermin from Adjoining House: Legal Position.

SIR,—We are the owners of a section of property in a respectable district. The agent or owner of the adjoining premises has allowed a person to tenant the house, the tenant being of such character that he brought vermin into the property. This became known to the agent or owner, who immediately had the house stoved, to kill any such vermin. The vermin then travelled into the adjoining house, that is, our property. The owner or agent responsible for the house was immediately warned that if the above matter caused any loss to us of tenant, we should claim against him for damages.

Will you please give us information regarding the legal points of this case, or give us particulars of any such case in law where claims have been made? MATOPPO.

[This case opens up a very important question. It is a matter which should be put before a lawyer before it goes further, for advice or an opinion. At present, speaking generally, the adjoining premises have been used in such a way as to cause a nuisance. Matter was brought on to them which escaped and caused damage. If that can be proved, there is, we think, a cause of action in damages, since a new and heavier burden has been imposed on the inquirer.

There are very many ruling cases bearing on this, though none directly on the point in question. Most of the cases follow the rule in Rylands *v.* Fletcher (1868) L.R. 3 H.L. 330. —ED.]

Discounting Retention Sums.

SIR,—We are a firm of contractors, most of whose work is for the Government and the public authorities. As you are aware, it is customary to retain a proportion of the contract sum until the expiry of the maintenance period. We are anxious to be put into touch with a discount house or other source who would discount these retention sums, either during progress or on completion of the contract, in a similar manner to discounting a bill, T. S.

[We shall be glad to put persons or firms interested into touch with our correspondents.—ED.]

ANSWERS.

A Smoky Chimney.

[ANSWERS TO "L. J. F.," OCTOBER 15.]

SIR,—This is a difficult subject to treat, since the vagaries of air currents are unlimited in certain circumstances, particularly where a building is overshadowed by near trees, high buildings or steeply rising ground. In such cases a perfectly constructed flue is liable to down-draught, and only by experimenting with various types of cowl can the defect be overcome. If, however, there are no unusual conditions of site, smoking flues must arise through structural defects, such as badly designed bends, air pockets, apertures between flues, or fire openings too high. Such causes are difficult to trace, except perhaps the latter. Inter-communication between flues can be proved by covering down the main flue and lighting a smoking fire. If the smoke shows from another flue, there is obviously some open joint or brick left out. The sweep, by the feel of the brush when sweeping, can often trace a defect, the position of which can be measured and the work opened up at the required point.

CONSTRUCTION.

SIR,—It is obvious that neither of the two special chimney-pots which have been tried at your correspondent's house is suitable for local conditions, which must be taken into account when effecting a remedy for down-draught in troublesome chimneys. Down-draught is generally caused by the wind, and can be recognised by its occurring only when the wind blows from one direction, the fire acting normally with the wind from another direction, or when there is practically no wind. When there are eddies and cross-currents, the common small chimney-pot usually fails, and the ordinary louvre-pot is rarely a success in preventing down-draught in chimneys unless the adverse wind blows steadily on to the troubled chimney. The writer has designed many types of cowls and chimney-pots for increasing up-draught and preventing down-draught in smoky chimneys, and one special type of revolving cowl has proved efficient for preventing down-draught and increasing up-draught in troublesome chimneys. Another recently marketed chimney cowl, which has a vacuum action, is claimed to render it impossible for wind to pass down the flue, and the stronger the wind the greater the up-draught created. Any drastic alteration to either the flues or fire-places is unnecessary. Although smoky chimneys are often due to bad flue construction, a remedy is oft-times effected by using smokeless fuels. [Details of above pots will be forwarded upon request.—ED.]

A. J. T. E.

[A reply from Mr. Leonard Hill has been forwarded.—ED.]

[A reply from Aerolete Ventilating Co. has been forwarded to our correspondent.—ED.]

Dry Rot.

[ANSWER TO "SURVEYOR," OCTOBER 15.]

SIR,—The cause of this may be from some infection existing in the wood when originally fixed, and developing through some porous point in the wall which forms a damp and unventilated air pocket, favourable to the propagation of dry rot.

DAMP.

Red Quarry Tiles as Dado.

[ANSWER TO "TILES," OCTOBER 15.]

SIR,—These tiles provide a suitable surface to receive paint if thoroughly cleaned from wax polish. The latter can be removed by applying a hot iron on blotting paper, which will absorb the molten wax. The painted surface will require periodical renewal, and will be liable to chips and flaking if roughly used.

FINISH.

SIR,—No matter what pigments or vehicles are used for painting the red quarry tiles, of the first importance is properly preparing the surface for painting. Grease and dirt should be removed from the tile surface with petrol or turpentine and the surface thoroughly scoured with steel-wool or pumice-stone and water. Sandblasting the tile surface prior to the priming coat would be preferable if available. Paints for tile surfaces have different functions from those of paints for wood. Except to an extremely limited degree, there is no absorption into the pores. For this reason there must be an endeavour to get the strong clinging effect that the pores of wood afford as an anchorage. The priming coat should form a solid groundwork on which the subsequent coats are built. Once the priming coat is well anchored the subsequent coats, if properly applied, anchor themselves one on the other.

A coat of flat white paint should be first given to the tiled surface. A second undercoating of the same paint should then be given. Each coat should have at least 24 hours to dry, and then apply two coats of hard gloss white paint.

A. J. T. E.

SOUND ABSORPTION FACTORS IN THEATRE PLANNING

REVERBERATION PROBLEMS

When making frequency range analyses of theatres, writes Mr. C. C. Potwin, of Western Electric's technical consulting staff, it will generally be found that the "normal" absorption (that provided by seats, carpet, drapes and interior surfaces) is considerably greater at the middle range and high frequencies than at the low frequencies. This indicates a longer time of reverberation at the low frequencies. For binaural (two-ear) listening it is permissible to have a slightly longer time of reverberation at the low frequencies than at the middle range and higher frequencies.

Experience has proved that in the case of very small theatres having favourable proportions, a close approximation to a uniform time of reverberation throughout the frequency range presents the most desirable condition; whereas, for large theatres a proportionately greater degree of reverberation at the low frequencies is acceptable, and, in some cases, actually desirable.

Balance of Sound Absorption.

An excessive amount of reverberation at the low frequencies will give a decidedly "boomy" or hollow effect to reproduced sound, particularly to speech. Too little reverberation at the high frequencies will give the effect of a decided "flatness" or lack of "presence," so essential to good sibilance in speech and brightness in music.

To ensure the proper balance of sound-absorption between the low, middle range, and high frequencies when planning acoustic treatment, the time of reverberation at 64, 128 and 256 cycles per second should not exceed the time at 512 c.p.s. by more than ⅓, ½ and ¼, respectively. Similarly, for the higher frequencies the average time of reverberation from 1,024 to 8,192 c.p.s. should not be less than ⅔ of the time at 512 c.p.s. These maximum and minimum tolerances are based on adjusting the times to the optimum or best values at 512 c.p.s.

In the majority of cases, little difficulty is experienced in providing for the proper amount of sound absorption at the high frequencies, because most materials are very efficient within this range. Actually, it will be found that the overall sound-absorption characteristic of the acoustic treatment selected for the various surfaces will have to taper off gradually at the high frequencies in order to fulfil completely the requirements for the average theatre.

Low Frequency Problem.

Proper sound absorption at the low frequencies is more complex. There are very few commercial acoustic materials available to-day having uniform absorption values at the low frequencies equal to, or greater than, their respective values at the middle range and high frequencies. Since the normal absorption in the theatre is usually less at the low end, it may be readily understood that the utmost care must be exercised in selecting materials.

It will be found that even under the best average conditions the material or combination of materials selected for treatment must have relatively high sound-absorption values at these frequencies if the best balance of reverberation time is to be assured for present high-quality sound reproduction.

Rear Wall Treatment.

Large rear wall areas which are strictly uniform and unbroken in contour almost require special treatment, having an extremely high sound-absorption value throughout the frequency range.

Where balconies are installed an efficient form of acoustic treatment is usually required on the upper rear wall and front face of the projection room behind the balcony. Treatment can be omitted from the lower or main rear wall, however, when the depth of the under-balcony section (measured at the centre in the case of curved balcony fronts) is greater than two and one-half times its average height, provided this wall is not curved or greater than 10 ft. in height. In cases where the under-balcony section is shallow and a heavily draped standee rail is not provided, treatment is usually required for the lower rear wall surface. Acoustic treatment is also required on the front edge of the balcony when it presents a smooth unbroken surface greater than 1 ft. 6 in. in height, and particularly when this surface is curved in the horizontal plane.

The use of glass in standee rails at the rear of the theatre is to be avoided. Such surfaces can be very objectionable from the standpoint of sound reflection, even when they are located well within the limits of the under-balcony section.

Treatment of Glass.

If the use of glass is necessary it must be tilted or angled in a manner such that direct sound reflections do not return from this surface to the audience area. Otherwise, the entire surface of the glass must be heavily draped on the side facing the stage.

The closest approach to the ideal method of acoustic design and treatment of the side walls involves the use of well-broken, non-parallel surfaces having a treatment which is highly absorbent at the rear and which diminishes uniformly in amount and efficiency toward the front. Where the side walls are strictly parallel and regular in shape, a treatment having a high absorption value throughout the frequency range may be required.

Where balconies are provided and the depth of the under-balcony section is greater than two and one-half times its height, it is usually preferable to omit treatment from the side walls within this section. If the under-balcony section is deep, and an excessive amount of sound absorption is introduced in this section, a decided loss of high frequencies is effected in the rear seating.

Importance of Ceiling.

Ceiling treatment is frequently required when the seats installed have a low sound-absorption value, when the enclosed volume per seat is high, or when the proportions deviate widely from the ideal. In the long theatre, this treatment should be moderate and distributed over the ceiling so as to ensure a satisfactory gradation of liveness.

When the theatre is extremely wide relative to its depth, ceiling treatment may become of even greater importance than side wall treatment. In this latter case, the amount of sound energy reflected from the ceiling at the first incidence is great compared to that reflected from the side walls. Consequently, a treatment having a high efficiency throughout the frequency range is often required for this surface.

Treatment is not usually required on the ceiling beneath the balcony unless the under-balcony section is shallow and there is very little sound absorption other than that provided by the audience. If a relatively deep under-balcony is proposed it is well to bear in mind that the ceiling within this section can be used to good advantage for maintaining the proper intensity of sound, particularly of the high frequencies, at the rear seats by sloping this surface slightly and uniformly toward the rear wall.

Tin Coating of Tinplate.

The International Tin Research and Development Council have issued Bulletin No. 59 (Series A), "Variation in Thickness of the Tin Coating of Tinplate, and Its Effect on Porosity." Compiled by Mr. W. E. Hoare, B.Sc., copies may be obtained from 378, Strand, W.C.2.

LONDON REGIONAL PLANNING

The Minister of Health, Sir Kingsley Wood, presided last week at the first meeting of the Standing Conference on London Regional Planning: a body representative of the local authorities of London and Greater London, the Home Counties and the Rural and Urban District Councils Associations, which has been set up, at his suggestion, to consider problems arising out of the planning of the London region. The conference replaces the Greater London Regional Planning Committee which came to an end last year.

The Minister emphasised the importance of having a body of people who were thinking about the planning problems of Greater London, and the real value in the ventilation of ideas for improvements. He said that the new conference, unlike the late Committee, would not itself consider and make proposals for planning London, as so many planning schemes in the region had now reached an advanced stage. The conference would generally consider questions referred to it by the constituent authorities. Sir Kingsley believed that this course would greatly facilitate the conference's activities and at the same time increase the immediate usefulness of its work.

The Minister referred to some of the more important planning problems of London, particularly to the traffic problem, and the control to be exercised over the erection of flats. He felt sure that the views of the conference on these and other questions would prove most valuable.

The conference decided to invite Mr. Ewart G. Culpin (London County Council and chairman of the previous Greater London Planning Committee) to act as chairman. They agreed with a suggestion made by the Minister that certain representatives of outside interests should be co-opted, and decided to invite Mr. Frank Pick, of the London Passenger Transport Board—together with a nominee of the Standing Joint Committee set up under the London Passenger Transport Act, 1933, for co-ordinating the services of the Passenger Transport Board and the suburban services of the four amalgamated railway companies.

In wishing the conference success at the conclusion of the meeting, Sir Kingsley Wood said they had perhaps one of the most difficult tasks in local government—the future development of the greatest city in the world—controlled by 127 independent planning authorities. But if the task was one of the most difficult, it was also one of the most interesting and one of the most deserving of completion.

RIDDELL HOUSE, ST. THOMAS'S HOSPITAL

This building is illustrated on pages 725—732. Sir Edwin Cooper, R.A., is the architect.

The general contractors were Messrs. Foster and Dicksee, Ltd., of London and Rugby, and the sub-contractors were Redpath, Brown and Co., Ltd., constructional steel; Lawford Asphalte Co., Ltd., asphalt; Acme Flooring and Paving Co., Ltd., wood block flooring; Art Pavements, Ltd., terrazzo; Carter and Co., Ltd., wall and floor tiling; De Jong and Co., Ltd., fibrous plaster; Express Lift Co., Ltd., lifts; Caston and Co., Ltd., lift enclosures; J. P. White and Sons, Ltd., lift cars; William Smith, metal windows and wrought-iron work; Newalls Insulation Company, cork insulation to roof; The Nautilus Fire Co., Ltd., gas flues; Luxfer, Ltd., electro-copper glazing; J. W. Gray and Son, Ltd., lightning conductor; Mumford, Bailey and Preston, Ltd., plumbing, heating, hot water and ventilation; Higgins and Cattle, Ltd., electrical installation; Haughton Bros., stone and wood carving; Central Perivale, Ltd., library fittings, flush doors; James Gibbons, Ltd., ironmongery; The Gas Light and Coke Co., gas fires and installation.

PROGRESS OF SLUM CLEARANCE

SOME SPECIAL HOUSING NEEDS.

Sir Kingsley Wood, the Minister of Health, recently addressed representatives of the local authorities in Cumberland and Westmorland at Carlisle.

The Minister said that the latest figures showed that since the war some 3,450,000 new houses had been built in this country. Some 12½ million persons, equal to 32 per cent. of the population, had moved to new homes. So great an exodus and involving so high a proportion of the population had never taken place before in the history of our country. The conditions of many parts of the country still, however, demanded that this great undertaking should be unceasingly maintained—the evils of the slum and of overcrowding had still to be eliminated and much new housing provision was still badly needed in many areas.

Houses for Old People and Large Families.

Sir Kingsley, in referring to the immediate housing programme, said not only new houses were required, but a balanced provision which must meet the variety of the needs of our people. There was a need for a larger number of one-bedroom houses for aged persons, and also a larger number for large families requiring four or more bedrooms. Another requirement, particularly as our people were being moved out of unfit and overcrowded houses, was that the rents should be within the means of the lower-paid workers.

Building Prices Steadying.

He was glad to say that there was no sign of any decline in local authority building. At the end of July a high record of 66,000 houses were under construction as compared with 64,000 for the previous month. A matter which was of great importance was the cost of housing, and it was satisfactory that prices were showing signs of steadying.

Already some 650,000 dwellers in bad and unsatisfactory houses had moved to better homes, and they were going at the rate of 25,000 every month. The fixing of the "appointed days"—the date from which the new overcrowding provisions were to operate, was proceeding steadily, and practically in every part of the country these provisions would be in operation by the end of the year. Abatement of overcrowding did not await the fixing of these appointed days. Local authorities had in their possession nearly a million houses, and the casual vacancies which arose in that large number of houses was considerable, and in many parts of the country overcrowding had already been substantially abated. The Medical Officer of Manchester had recently reported that by measures of co-operation between the municipality and owners of property some 30 per cent. of the cases of overcrowding disclosed by housing survey had been abated. In many parts of the country successful work of a similar character was being accomplished. Many would like to see the statutory definition of overcrowding improved, but it was obvious that the first duty was successfully to achieve the elimination of overcrowding as at present laid down by Parliament, which with slum clearance would still involve the erection of some 300,000 new houses.

Housing in the Rural Districts.

Rural housing presented its own special problems and the slum problem there was often as difficult as in the towns. Rural district councils were at present concentrating upon slum clearance; the original programme had been increased and some 18,000 houses had been built, or were under construction to replace unfit houses. It was obvious that a great deal more had to be done in the rural areas. There were the renovation and bringing up to date of existing country cottages under the Housing (Rural Workers) Act. The Minister said he would sooner renovate a cottage if it could be made into a good and healthy house than pull down an old one. The Ministry had, in conjunction with the authorities, commenced an extensive effort to make the advantages of the Act more widely known. It was already bearing good fruit. In the last few months more was being done under the Act. The quarter ended in June showed a record number of applications for grants under the Act, a third more than for the previous highest quarter ended December last. Applications were made in respect of no fewer than 1,224 dwellings, and the total number of dwellings in respect of which grants or loans had been promised was now 15,056.

The country wanted quality as well as quantity in our housebuilding operations. Good housing standards were necessary, together with an orderly development of land and the preservation of rural amenities.

BUILDING STATISTICS

Employment during September showed a slight decline on the whole, due mainly to seasonal slackening in the painting and decorating branch of the industry. Compared with the previous month, there was a decline in employment in all administrative divisions except Northern Ireland, and with all occupations except masons and plasterers. There was little change, on the whole, compared with September, 1936. At September 13 117,228 were registered as unemployed, a percentage of 11.5. This was 0.8 per cent. worse than for August, but 0.1 per cent. better than for September, 1936.

Building Plans Approved.

Returns as to the estimated cost of buildings for which plans were approved during September have been received from 143 local authorities (representing towns with a population of 17,408,000 in 1931). The returns show that, in September, 1937, plans were passed for buildings with an estimated cost of £9,093,800, compared with £9,018,300 in September, 1936. This is a percentage increase of 0.8 per cent.

The comparative figures for various classes of structure are (1936 figures in parentheses) as follow:—Dwelling-houses, £5,577,300 (£5,730,400); factories and workshops, £865,400 (£953,200); shops, offices, warehouses and other business premises, £620,400 (£512,600); churches, schools and public buildings, £1,004,700 (£892,800); and "other buildings," £1,026,000 (£929,300).

Increases by districts are registered in Northern Counties, 42.7 per cent.; Yorkshire, 6.3; Lancs and Cheshire, 12.0; South-Midland and Eastern Counties, 37.9; South-Western Counties, 36.3; and Scotland, 113.2. Decreases are recorded for: N. and W. Midland Counties, 23.9 per cent.; Outer London, 5.6; S.E. Counties, 48.9; and Wales and Mon., 24.3.

Figures for August, 1937.

In our issue for September 24 figures were given (based upon the "Ministry of Labour Gazette") for 141 local authorities in respect of plans approved during August, 1937. Returns for the latter month are now available for all the 146 local authorities covered by the Department's inquiries (representing towns with a total population of 17,810,000 in 1931). The estimated cost of the buildings included in the returns was £5,846,800, compared with £9,920,700 in July, 1937, and £7,606,800 in August, 1936. Of the total for August, 1937, dwelling-houses accounted for £3,624,100; factories and workshops, £477,500; shops, offices, warehouses and other business premises, £590,000; churches, schools and public buildings, £508,700; other buildings, and additions and alterations to existing buildings, £646,500. The number of dwelling-houses for which plans were approved by the 146 authorities in August was 6,988, as compared with 12,460 in July, 1937, and 10,956 in August, 1936.

[See Editorial Comment, p. 719].

NEW BUILDINGS IN LONDON

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

BAKER-STREET. — Improvements. — The L.P.T.B. has placed a contract at £100,000 with Messrs. Charles Brand and Son, Ltd., 25, Charles-street, S.W.1, for the making of a tube junction at Baker-street Station. A tunnel will carry Bakerloo trains over Metropolitan tracks to Wembley Park and Stanmore.

BARTHOLOMEW-CLOSE. — Alterations. —H.M.O.W. have placed a contract with Messrs. Killby and Gayford, 87, Worship-street, E.C.2, for alterations for the Post Office Engineers' Department at No. 43.

BERMONDSEY.— — Flats.—No contracts have yet been placed for the flats, shops, etc., at 236-250, Jamaica-road. Messrs. Stock, Page and Stock, 18, St. Thomas-street, S.E.1, are the architects.

BRENTFORD.—Housing. — The Brentford and Chiswick T.C. has placed a contract with Messrs. A. E. Brown and Co. (Building Contractors), Ltd., 2, Acton-lane, Chiswick, at £4,804 10s., for erection of firemen's quarters and alterations to the fire-station. The plans are by the Borough Engineer and Surveyor, Mr. L. A. Cooper, L.R.I.B.A.

BRIXTON.—Alterations.—And additions are to be made to the sub-district post-office for H.M.O.W. The contract has been secured by Messrs. F. J. Moreton and Son, Ltd., 171, Gipsy-road, S.E.17.

CAMBERWELL. — Factory. — Messrs. Whitehall Contractors, Ltd., 11, Waterloo place, S.W.1, are the builders for a factory at 252/256, Southampton-way, S.E. Messrs. Fuller, Hall and Foulsham, 212, High Holborn, W.C.1, are the architects.

CAMBERWELL.—Houses.—No contracts have yet been placed for the houses in Jasper-road and The Avenue. The architect is Mr. Hugh Macintosh, F.R.I.B.A., 1, Imperial-buildings, East Croydon.

CAMBERWELL.—Filling Station.—Mr. Hugh Macintosh, F.R.I.B.A., 1, Imperial-buildings, East Croydon, is the architect for a petroleum filling station at 1-3, Elms-road, S.E. No contracts placed.

CAMBERWELL.—Home.—Plans have been prepared by Messrs. Marshall and Tweedy, FF.R.I.B.A., of 96, New Cavendish-street, W.1, in collaboration with Mr. A. J. Carpenter, Minet Estate Office, 54, Knatchbull-road, S.E.5, for a new home. The quantity surveyors are Messrs. Mackmin and Saunders, of 143, Cannon-street, E.C.4.

CAMBERWELL.—Centres.—The B.C. has recommended application to the M. of H. for borrowing of £5,850 for the acquisition of 213 to 225 (odd nos. inclusive), Camberwell-road, as a site for a composite health centre, and for the required sum to acquire from the L.C.C. for the purposes of an infant welfare centre, on the cleared site of certain property in Herring-street.

CAMBERWELL. — Rebuilding. — And extension of their premises in Peckham-road, S.E.15, are contemplated by the London Association for the Welfare of the Blind, 144a, Warwick-street, S.W.1. Plans have been prepared by Mr. Adrian C. S. Wheeler, L.R.I.B.A., 59, Windsor-road, Forest Gate, E.7

CATFORD.—Flats.—Messrs. Wright and Renny, 1, Powis-street, Woolwich, S.E.18, are the architects, and Messrs. G. T. Crouch, Ltd., 3, Thames-street, Kingston, are the builders, for flats and garages at 7, Canadian-avenue.

CHADWELL HEATH. — Extension. — Messrs. John Smith and Co. (London), Ltd., 44, East Smithfield, E.1, have under con-

sideration the extension of their Hainault Works, Hainault-road. The architect is Mr. Edward Meredith, F.R.I.B.A., Victoria House, High-road, Goodmayes.

CHEAPSIDE.—PREMISES.—Messrs. Robert Angell and Curtis, 133, Regent-street, W.1, are the architects for a new building at 67/69, Cheapside, and 1/5, Queen-street. The contractors are Messrs. G. E. Wallis and Sons, Ltd., 18, York-buildings, Adelphi, W.C.2.

CLAPHAM PARK - ROAD.—GARAGES.—The London Demolition Co., Ltd., London-road, Isleworth, are carrying out demolition work at Nos. 174-178, prior to the erection of garages by Messrs. Commercial Structures, Ltd., Staffa-road, Leyton, E.10.

CLAPHAM-ROAD.—FLATS.—No contracts have yet been placed for the block of flats at 325-329, Clapham-road. Mr. Arthur S. Ash, L.R.I.B.A., 1, Mandeville-place, W.1, is the architect.

COLEMAN - STREET. — REBUILDING. — Messrs. Stanley Hall and Easton and Robertson, 54, Bedford-square, W.C.1, are the architects for the proposed rebuilding of No. 80a. No contracts placed.

EAST HAM.—WARD.—Mr. J. W. Lohden, 10, Plashet-grove, E.6, is the architect for erection at the Memorial Hospital of a new block, comprising a children's ward and a maternity ward, estimated to cost £30,000. No contracts settled.

EAST HAM.—HOUSES.—The Borough Engineer is to prepare and submit plans and estimates for the erection of the 38 houses on clearance areas Nos. 11-15.

ELTHAM.—CLUB HOUSE.—The Woolwich B.C. has approved an application by Mr L. A. Isaacs, 123, Pall Mall, S.W.1, for an estate club house at the junction of Sidcup road and Mervyn-avenue, New Eltham.

ELTHAM. — SHOWROOMS. — The South Metropolitan Gas Co., 709, Old Kent-road, S.E.15, have accepted the tender of Messrs. F. J. Moreton and Son, 171, Gipsy-hill, West Norwood, S.E.27, for their proposed showrooms and offices in Eltham High-street, S.E. The plans have been prepared by the company's drawing office.

FINCHLEY.—REBUILDING.—The Wenlock Brewery Co., Ltd., Wenlock-road, Islington, N.1, have under consideration plans for the rebuilding of the "Old White Lion" public-house in the High-road, N.3. The architect is Mr. William G. Ingram, F.R.I.B.A., 4, Verulam-buildings, Gray's Inn, W.C.1.

FINCHLEY. — MORTUARY. — The B.C. has received sanction to borrow £3,270 for a mortuary in North Circular-road, N.3. The plans have been prepared by Mr. Percival T. Harrison, A.M.Inst.C.E., Borough Engineer, 294, Regent's Park-road, N.3.

HAMMERSMITH. — REBUILDING. — Mr. F. C. W. Stacey, 176, High-street, Acton, is the architect for the rebuilding of 134, King-street, W.6. No building work contracts have yet been placed, only the steelwork. The demolition work is being carried out by the London Demolition Co., Ltd., London-road, Isleworth.

HAMPSTEAD GARDEN SUBURB.—SHOPS.—Plans have been prepared by Messrs. Marshall and Tweedy, FF.R.I.B.A., of 96, New Cavendish-street, W.1, for a new shop parade of 12 shops with flats over. The contract has been let to Messrs. George Moss (London), Ltd., Dorchester-road, Northolt Park.

HARROW. — HOUSES. — The U.D.C. has passed plans for six new streets off Oxhey-lane, Hatch End, and a total of 179 houses, all with garages, for Messrs. J. Laing and Sons, Ltd., builders, Mill Hill, N.W.7.

HARROW.—HOUSES.—A total of 115 houses in five new roads off Turner-road, are to be erected by Messrs. Hilbery Chaplin, Ltd., 4, Russell-parade, N.W.11.

HARROW. — FLATS. — The U.D.C. has approved plans for 68 flats to be erected in Honeypot-lane, from plans by Messrs. Fitt and Prior-Hale, architects, 58, Theobalds-road, W.C.1. No contracts placed.

HENDON. — DEPOSITORY. — Messrs. Pickfords, Ltd., 205, High Holborn, W.C.1, are to have a furniture depository built on the north-east side of Edgware-road, N.W.2, from plans prepared by their own surveyor. The building work is to be carried out by the company's own building department.

HERTFORD.—BUILDING.—Plans have been submitted to the T.C. by Mr. W. H. Hobday, F.R.I.B.A., 2, Millbank-house, Wood-street, S.W.1, for a new massage block at the County Hospital.

HORNCHURCH.—HOUSES. — The U.D.C. has accepted the tender of Messrs. Cripps Bros., Rochford, at £6,080, for six firemen's houses in Billet-lane. Plans have been prepared by the surveyor, Mr. F. Anderson, Billet-lane.

HOUNSLOW.—SCHOOL.—The Heston and Isleworth T.C. has accepted the tender of Messrs. D. S. M. Estates, Ltd., 186, Martindale-road, Hounslow, at £18,333, for the proposed Norwood Green schools. The architect is Mr. J. G. Carey, A.M.Inst.C.E., Town Hall-chambers, Hounslow, and the quantity surveyor is Mr. J. McBain, F.S.I., 21, Hart-street, W.C.1.

ISLINGTON.—SUB-STATION.—The B.C. are to make a compulsory purchase order for the acquisition for the purposes of the erection of an electricity sub-station of a plot of land between 197 and 199, Green-lanes.

ISLINGTON.—CONVERSION.—The B.C. has accepted the tender of Messrs. C. and F. Bryen, 48, Crouch End-broadway, N.8. amounting to £3,370, for the conversion of the disused office accommodation at Edengrove for use of the Electricity Department.

KENTISH TOWN.—DWELLINGS.—The St. Pancras B.C. has recommended the acceptance of the tender of Parker Construction Co., Ltd., Shell-Mex House, Strand, W.C.2, at £100,191, for the construction of working-class dwellings, comprising 139 tenements, on a site in Queen's-crescent. The architect is Mr. Albert J. Thomas, F.R.I.B.A., 31a, Sloane-street, S.W.1, and the quantities are by Messrs. Waggett and Bradford, 12, Regent-street, S.W.1.

KINGSBURY.—FACTORY.—The Wembley Council has passed plans submitted by Mr. A. L. Watson for a factory and petrol filling station in Honeypot-lane.

KINGSBURY. — SHOPS. — The application submitted by Messrs. McGlashan and Co., Central-parade, High-road, Wembley, for 17 shops, 54 flats and new road in Church-lane (opposite "The George" public-house) has been approved by the Wembley Council.

LAMBETH.—PREMISES.—Mr. P. A. Hamilton, L.R.I.B.A., 69, Kennington Oval, S.E.1, and Mr. Frank Eve, 29, Whitehall, S.W.1, are the joint architects for a laundry building at 274, South Lambeth-road. The building work has not yet commenced.

LEE. — EXTENSIONS.—Messrs. Searle and Searle, Paternoster House, E.C.4, are the architects for extensions of the hostels at the Ravensbourne Club, in Eltham-road. No contracts placed.

LEYTONSTONE. — ALTERATIONS.—Are to be made at 654, 656, 658, High-road, for Messrs. Upsons, Ltd., 7, Great Dover-street, S.E.1. The plans are by the company's own staff architect, Mr. Simcock. No contracts placed.

LIVERPOOL-STREET. — IMPROVEMENTS. — The L.P.T.B., 55, Broadway, S.W.1, have decided to completely rebuild Liverpool-street underground station, including a large circular booking hall, escalators, etc. The board's chief architect is Mr. S. W. Heaps, L.R.I.B.A. No contracts placed.

MAIDA VALE.—BANK.—The contract has been let to Messrs. J. Gerrard and Sons, of Victoria House, Southampton-row, W.C.1. for new bank premises at the corner of Elgin-avenue and Maida Vale. The architects are Messrs. Marshall and Tweedy, FF.R.I.B.A., of 96, New Cavendish-street, W.1.

MALDEN.—LIBRARIES.—The Surrey County Library Committee has approved the Malden Council's £23,200 library improvement scheme. The scheme provides for a new central library in Kingston-road, at £14,700. and a branch library at Old Malden at £7,700.

MIDDLESEX.—BUILDINGS.—The C.C. are inviting tenders for temporary classroom, cloakroom and sanitary accommodation at the Feltham Hill council school, Ashford-road, Feltham, and the enlargement of Enfield Grammar School, and construction of a swimming bath, county library branch, juvenile employment bureau, divisional education office and caretaker's quarters at Bowes-road, Southgate, N.11.

NEASDEN.—ALTERATIONS.—Are to be made by Messrs. Limpus and Son, Ltd., 7, Kingston-hill, Kingston, to the branch post-office for H.M.O.W.

NORTH FINCHLEY.—HALL.—The Vicar and wardens of Christ Church have under consideration the building of a new church hall. The architect is Mr. John C. Stockdale, L.R.I.B.A., 12, Hart-street, W.C.1.

NORWOOD-ROAD.—SHOPS.—Mr. A. E. Bullock, A.R.I.B.A., 59, George-street, W.1, has prepared plans, which have been submitted to the local council, for shops and flats at the corner of Harpenden-road and Norwood-road.

PENGE. — BRANCH. — Plans have been approved for branch premises at 158-162, High-street, for the South Suburban Co-operative Society, Ltd., London-road, Thornton Heath. The architects are Messrs. Bethell and Swannell, 16a, John-street, W.C.2. No contracts placed.

PLUMSTEAD. — SHOWROOM. — Messrs. Thomas and Edge, Ltd., 25, Greens End, Woolwich, S.E., are the builders for a garage and showroom and petrol filling station in King's Highway. Messrs. Eley and Allen, 83, Powis-street, Woolwich, S.E., are the architects.

ROMFORD. — HOUSES.—Consent has been received by the U.D.C. from the M.H. to a loan of £27,800 for a further 68 houses on the Council's Rush Green housing estate.

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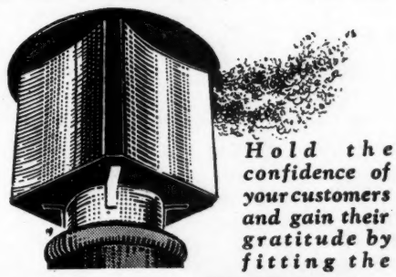

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ROMFORD.—Home.—The Essex P.A.C. are inviting tenders for a children's home at Harold Wood Hall, Romford. Mr. J. Stuart, F.R.I.B.A., County Architect, Chelmsford, has prepared the plans

ROMFORD.—Showrooms.—And offices are to be erected for the Romford and District Gas Co., Nursery-walk. The plans have been prepared by Messrs. Crowe and Careless, AA.R.I.B.A., 74, Great Russell-street, W.C.1.

ST. JOHN'S WOOD.—Flats.—Are to be erected at 27/37, Cochrane-street, by Messrs. Lincoln Darby and Co., Ltd., Tudor House, High-street, Eltham, S.E.9. The architect is Mr. Ashley F. Benjamin, F.R.I.B.A., 22a, Cavendish-square, W.1, and the quantity surveyor is Mr. F. H. Wood, F.S.I., 19, Charing Cross-road, W.C.2.

ST. PANCRAS.—Offices.—The B.C. has recommended that an amended application be made to the Electricity Commissioners for sanction to the borrowing of £13,000 in respect of the cost of erecting new distribution offices at 57-71, Pratt-street.

SHEPHERD'S BUSH.—Flats.—Mr. R. T. Read, Glenmore Park estate, Plumstead, is the architect for flats at 239, Uxbridge-road, W.12, near Askew-crescent.

SHEPHERD'S BUSH.—School.—The L.C.C. has forwarded a notice to the Hammersmith B.C. of their intention to provide an elementary school of 2,000 additional places in the neighbourhood of the White City.

SHOE-LANE.—Rebuilding.—Messrs. L. A. Culliford and Partners, 47, Essex-street, W.C.2, are the architects for the rebuilding, on behalf of the "Daily Telegraph" Co., Ltd., of 99/101, Shoe-lane. The contract has been placed with Messrs. Holland & Hannen and Cubitts, Ltd., 1, Queen Anne's-gate, S.W.1.

SHOOTERS HILL.—Hall.—A new parish hall is now being built for the parochial church council of Christ Church. The joint architects are Mr. Hamilton H. Turner, F.S.I., 19, Queen Anne's-gate, S.W.1, and Mr. G. I. C. Highet, A.R.I.B.A., 21, Tothill-street, S.W.1, and the builders are Messrs. T. Rider and Son, Ltd., 181, Union-street, S.E.1.

STEPNEY.—Rebuilding.—Plans have been prepared for the rebuilding of the warehouse premises in Cable-street, E.1. The architects are Messrs. Percy H. Clarke and Son, 5, Arundel-street, W.C.2.

STREATHAM. — Library. — The Wandsworth B.C. recommend, subject to the approval of the Minister of Health, the tender of Messrs. Walker (Tooting), Ltd., 39, Defoe-road, S.W.17, at £3,847, be accepted for the sub-library at Streatham Vale.

WANDSWORTH. — Flats. — Mr. G. Leonard Elkington, F.R.I.B.A., 7, Laurence Pountney-hill, E.C.4, is the architect for the development of the remaining section of the Wandsworth Plain Clearance Area, situated on the south of the by-pass road. The scheme provides for 76 flats in three blocks four storeys in height. Messrs. Henry Riley and Son, chartered quantity surveyors, of 82, Victoria-street, S.W.1, have been appointed to prepare bills of quantities in connection with the Fairfield-street rehousing scheme. The works are for the B.C.

WEMBLEY. — Hall. — The Council has approved a site for a church hall at the junction of Windermere-avenue and Carlton-avenue East. The application was submitted by Messrs. Biscoe and Stanton, 19, College-road, Harrow.

WEMBLEY.—Showroom.—Plans submitted by Mr. H. T. Green have been approved for a garage and showroom in East-lane, near the junction with Pembroke-road.

WEMBLEY.—Factory.—The Stanmore Engineering Co., are erecting a factory and office in Lowther-road. The plans have been approved.

WEMBLEY. — Clinic. — The T.C. has accepted the tender of the Raglan Building Co., Ltd., Forty-lane, Wembley, amounting to £3,316 for erection of the Stag-lane clinic.

WEMBLEY. — Extensions. — Are to be carried out to Messrs. Desoutter Bros., Ltd.'s, factory in Edgware-road. Messrs. Stanley Peach and Partners, 60, Warwick-square, S.W.1, are the architects, and Messrs. Wm. King and Sons, Ltd., 41, Market-street, Watford, are the builders.

WINCHMORE-HILL. — Extensions. — Messrs. Townsend and Collins, Ltd., 6, Lime Tree-walk, Cedar-road, Enfield, are the contractors for extensions to the isolation hospital for the Enfield and Edmonton Joint Hospital. The tender price is £44,336 3s. The plans are by Mr. H. R. Crabb, F.R.I.B.A., engineer to the Enfield U.D.C., 18a, Church-street, Enfield.

WOOLWICH.—Garage.—Messsrs. G. S. N. Stone and Co., Staple Inn-buildings, High Holborn, W.C.1, are the architects for a new garage and petrol filling station in the Woolwich High-street and Glass-yard. No contracts placed.

WOOLWICH. — Buildings. — H.M. War Office has placed a contract with Messrs J. W. Falkner and Sons, Ltd., 24, Ossory-road, S.E.1, for a new building at the Royal Arsenal.

WORCESTER-PLACE.— Extension. — The Vintners' Company has adopted a scheme for the enlargement of the Vintners' Hall in Worcester-place, E.C.4. The contractors are Messrs. W. H. Lorden and Son, Ltd., 117, Trinity-road, Wandsworth, S.W.17. The plans have been prepared by Messrs. Kersey, Gale and Spooner, 91, Moorgate, E.C.2.

NEW CINEMAS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

BARNET.—Plans have been approved for the erection of a cinema to seat 1,250 for Messrs. Albert Bacal and Nathan Lee. The architect is Mr. Edgar Simmons, 73, Chancery-lane, W.C.2.

BEDFORD.—Mr. George Coles, F.R.I.B.A., 40, Craven-street, W.C.2, is the architect for a cinema to be erected in Harpur-street and Dame Alice-street for Messrs. Albert Bacal and Nathan Lee.

BRISTOL.—Mr. Ivor Hyatt proposes to erect a cinema, seating about 1,300 persons, in Warrington-road. The architect is Mr. W. H. Watkins, F.R.I.B.A., Sun Buildings, Clare-street, Bristol. No contracts let.

BUCKIE.—Mr. Alister G. MacDonald, F.R.I.B.A., 14, John-street, Adelphi, W.C.2, and 123, George-street, Edinburgh, has prepared plans for alterations to the Palace Cinema for the Highland Cinema Co.

HELENSBURGH.—Plans are to be prepared for an extension to the Picture House. The architects are Messrs. Bryden, Robertson and Boyd, 147, Bath-street, Glasgow.

NORTH BERWICK.—Scott Empires, Ltd., have acquired the Picture House, which is to be reconstructed to provide accommodation for 1,000 people.

ROTHERHAM.—Mr. H. J. Shepherd, Town Hall-chambers, 87, Fargate, Sheffield, is the architect for alterations to the Palace Cinema, Laughton-road, Dinnington. Plans provide for 150 additional seats.

SOUTH SHIELDS.—Messrs. J. H. Morton and Sons, Martins Bank-chambers, Fowler-street, South Shields, have prepared plans for the erection of a cinema in the Marsden-road area. The scheme is awaiting the approval of the local authority.

STOCKPORT.—Mr. George Clayton, 4, Wellington-street, is preparing plans for a cinema, swimming pool, tennis courts, car park, etc., in London-road, Poynton, for the Poynton Cinemas, Ltd.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. A dagger (†) denotes closing date for applications for particulars; other dates are those for the submission of tenders; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; B.S. for Borough Surveyor; B.E. for Borough Engineer; D.S. for District Surveyor; C. for Clerk; T.C. for Town Clerk; C.E. for County Engineer; C.S. for County Surveyor; S. for Surveyor; E. for Engineer; F. for F.R.I.B.A.; A. for A.R.I.B.A.; L. for L.R.I.B.A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, &c.

OCTOBER 25.

†**Weymouth.**—Installation.—Of low-pressure hot-water heating system and hot-water supply to Public Assistance Institution, for Dorset C.C. C. P. Brutton, Clerk, County Offices, Dorchester. Dep. £2 2s.

OCTOBER 26.

Bristol.—Convenience.—At St. George Park, Church-rd., for T.C. H. M. Webb, City E. and S., 63, Queen-sq. Dep. £2 2s.

OCTOBER 27.

Airlie.—Police Station.—For Angus C.C. Master of Works, County-bldgs., Forfar.

✱**Bristol.**—School.—At Petherton-rd., Whitchurch, for T.C. Bernard & Son, quantity surveyors, 26 Orchard-st. Dep. £2 2s.

Caernarvonshire.—Works.—At Conway Institution, improvements to men's lavatories; Blodwell Homes, Llandudno Junction, internal painting to first floor, for C.C. David G. Jones, County Offices, Caernarvon.

Dinnington.—Installation.—Of electric lighting at junior and infant school, for West Riding C.C. A. Rayner, Education Office, Ecclesfield, Sheffield.

Down.—Painting.—At Castle Gardens P.E. School, Newtownards, for E.C. H. Dinsmore, secretary.

✱**East Sussex.**—School.—At Worth, for C.C. E. A. Verger, F., Lewes.

✱**Essex.**—Assembly Hall.—And kitchen at Tilbury Lansdowne-rd. school, for C.C. J. Stuart, F., Chelmsford. Dep. £1 1s.

Exeter.—Store.—At The Basin for T.C. John Bennett, F., City Architect.

Huddersfield.—External Painting.—Of properties, for T.C. T.C.

Newcastle-upon-Tyne.—Installation.—Of heating and hot-water supply in connection with conversion of Block "D" at General Hospital, for T.C. City Architect, 18, Cloth Market.

Oswaldtwistle.—Bungalows.—8, and 32 houses, for U.D.C. J. P. Shorrock, S. Dep. £2 2s.

Redcar.—Alterations.—And additions at pavilion, Esplanade, for T.C. B.E. and S. Dep. £2.

Rotunda.—Rebuilding.—Of students' quarters at hospital. Beckett & Medcalf, quantity surveyors, 6, Clare-st., Dublin. Dep. £5.

Shaftesbury.—School.—For Dorset C.C. C. P. Brutton, C., County Offices, Dorchester. Dep. £2 2s.

Wellingborough.—Painting.—Of houses, for U.D.C. E. and S.

Weymouth and Melcombe Regis.—Cleaning.—Painting, etc., exterior of palm houses, potting shed, and all greenhouses and frames at Melcombe Regis Gardens, for T.C. B.S.

Weymouth and Melcombe Regis.—Painting.—Of various properties, for T.C. B.S.

OCTOBER 28.

†**Birmingham.**—Painting.—At Dudley-rd. Hospital, for T.C. F. H. C. Wiltshire, Town Clerk, The Council House, Birmingham, 1. Dep. £2 2s.

Breconshire. — Electric Lighting. — At Ysgol-Thomas-Stephens Pont-Nedd-Fechan and Cefn Senior School, for C.C. H. C. W. Strickland, F., County Architect, Watton Offices, Brecon.

Carlisle.—Houses.—148, at Currock housing estate, and 76, at Millholme-ter. estate, for T.C. City E., 18, Fisher-st.

†**Northumberland.**—Various Works.—At schools, for C.C. County Architect, County Hall, Newcastle-on-Tyne, 1. Dep. £1 1s.

Southsea.—Warehouse.—For W. P. Winter & Son, Ltd., in Blackfriars-rd. A. E. Cogswell & Sons, architects, Prudential-bldgs., Portsmouth. Dep. £1 1s.

OCTOBER 29.

Atherstone.—Painting.—Of 134 houses, for R.D.C. S.

†**Birmingham.**—Adaptations. — At Tudor Works, 85, Lionel-st., to form accommodation for post office area officer, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Bristol.—Superstructure.—Of municipal buildings, for T.C. T.C. Dep. 20 guineas.

Cobh.—Curator's Cottage.—And contingent works, adjacent to Tibbotstown Waterworks, for U.D.C. A. Powell, Clerk, Town Hall.

Dewsbury.—Conversion.—Of privies at cottage adjoining Moor Farm, Thornhill Lees, and 28, Church-st., Ravensthorpe, for T.C. Chief Sanitary Inspector.

Dublin.—Additions.—To St. Joseph's Asylum, Portland-row. Morris & Kavanagh, quantity surveyors, 68, Harcourt-st., Dublin. Dep. £3.

Gloucester.—Redecoration.—To 20 houses, for T.C. City Architect, Suffolk House, Greyfriars.

Hendon. — Pavilion. — Montrose playing fields, Burnt Oak, for T.C. B.E. Dep. £3.

Ireland.—Houses.—9, and 9 out-offices at Castlekeely, 7, and 6 out-offices at Rathcobican and Ballybrittas, Rhode, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

Moray and Nairn.—Primary Department.—At Milne's Institute, Fochabers, for Joint C.C. County Architect, Greyfriars-st., Elgin.

Oldham.—Showrooms.—In Market-pl., for T.C. B.E. and S. Dep. £1 1s.

Richmond (Yorks).—Houses.—12, for R.D.C. S., 36 Market-pl.

Walthamstow. — Electricity Sub-station. — At Willow-walk, for T.C. B.E. and S. Dep. £2 2s.

✱**Warwick.**—School.—At Hasluck's-gn., Solihull, for C.C. A. C. Bunch, County Architect. Dep. £1 1s.

Worthing.—Development.—Of Beach House estate, for T.C. B.E.

OCTOBER 30.

Ashby-de-la-Zouch.—Houses.—9, at Heath-ln., Blackfordby, for U.D.C. Leonard Swanwick, Temple-chambs., Belvoir-rd., Coalville. Dep. £2 2s.

Boston.—Lodge.—Shelter and entrance gates to cemetery off Robin Hood's-walk, for T.C. D. G. Cockrill, B.E. Dep. £2 2s.

Chislehurst and Sidcup.—Convenience.—At Willersley Park, Sidcup, for U.D.C. Edgar Lawes, E. and S., 154, Main-rd., Sidcup. Dep. £2 2s.

Depwade.—Houses.—123, and 8 bungalows in various parishes, for R.D.C. F. H. Bowden, Long Stratton. Dep. £1.

Driffield.—Houses.—12, off Scarborough-rd., for U.D.C. Maurice B. Parkin, architect, 3, Belvedere-parade, Bridlington.

✱**Heston and Isleworth.**—Installation.—Of electric light and power at swimming bath, New Heston-rd., for T.C. J. G. Carey, B.S., Hounslow. Dep. £2 2s.

Holyhead.—Houses.—102, on Newry-st. site, for U.D.C. Dep. £2 2s.

✱**Leeds.**—Extensions.—To Meanwood Park Colony, for T.C. S. Wormald, 27, Blundell-st. Dep. £3 3s.

Luton.—Alteration.—And extension of Beech Hill senior school, for T.C. J. W. Tomlinson, L., B.E. and S.

Okahandja, South Africa.—Power Station.—For municipality electricity supply undertaking. Department of Overseas Trade, 35, Old Queen-st., S.W.1. Ref. T. 19158/37.

Ormskirk.—External Painting.—To houses in Ormskirk and Burscough, and properties at parks and waterworks, roofing works at farm buildings, Throstles Nest Farm and depot, Ormskirk, also supply of glazed tiles, partitions and sanitary ware, for conveniences at Burscough, for U.D.C. S.

Prestwich.—Houses.—2 5-bedroomed and 10 4-bedroomed, for U.D.C. Handel Kay, E. and S.

St. Columb Major.—Offices.—Drainage and water supply at Queen's school, and bathroom to master's house, for Cornwall C.C. S. Pool, A., County Hall, Truro. Dep. £1.

✱**Stafford.**—School.—In Riverway, for C.C. F. A. Hughes. Dep. £5 5s.

Stockton-on-Tees.—Corridor.—And storehouse in brickwork, and alteration to classrooms for provision of assembly hall at Newtown School, for T.C. B.E. Dep. £1 1s.

Trowbridge.—Houses.—92 2-storey, and 8 bungalows, also sewers and roads, on Longfield extended rehousing site, Mortimer-st., for U.D.C. Geo. W. J. Clark, S. Dep. £2.

Ventnor.—Houses.—At Newport-rd. site, for U.D.C. H. Cleator Cowen, S., St. John's House.

✱**Warminster and Westbury.**—Houses.—2, at Chapmanslade; 6, Edington; 4, West Ashton; and 4, Steeple Ashton, for R.D.C. Terence W. Snailum, architect, Church-st., Trowbridge, Wilts. Dep. £2 2s.

NOVEMBER 1.

Cheadle. — Internal Decorations. — To various houses, for R.D.C. A. P. Hancock, S.

Clay Cross.—Houses.—10, at Stretton-rd., for U.D.C. A. T. Lynam, S. Dep. £1 1s.

Colborne.—Plastering.—Of sculleries at 38 houses, for U.D.C. A. Clough, S., Council Offices, Lowton.

Gravesend.—Fencing.—For T.C. B.E.

Great Yarmouth.—Houses.—66, in three roads, for T.C. B.E. Dep. £2 2s.

✱**Leyton.**—Internal Painting.—At Sybourn-st. school, for T.C. J. H. Jacques, F., 61, West Ham-ln., Stratford, E.15. Dep. £1.

London.—Internal Painting.—At Holloway telegraph factory, Bovay-pl., N.7, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, S.W.1. Dep. £1.

✱**London.**—Internal Painting.—At Admiralty, Whitehall, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, S.W.1. Dep. £1.

London. — Adaptations. — At Board of Trade Standards Dept., Chapter-st., for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, S.W.1. Dep. £1.

Manchester. — Additions. — And alterations to Chorton Municipal High School for Boys, for E.C Surveyor's Dept. Dep. £2 2s.

✱**Middlesex.** — Library Branch. — At Kenton, Harrow, for C.C. Secretary to Education Committee, "B.2," 10, Great George-st., S.W.1. Dep. £2 2s.

Newport (Mon.).—Cottage.—And greenhouse at Lydia Reynon Maternity Hospital, The Coldra, Chepstow-rd., for Monmouthshire C.C. County Surveyor, "Stelvio," Bassaleg-rd. Dep. £5 5s.

Northwich.—Railings.—And fences, formation of footpaths and surface-water drainage, at cemetery, for U.D.C. F. R. Elleray, architect, 39, High-st.

Sheffield.—Reinforced Concrete.—And other work for accommodation of turbo-alternator and boiler in No. 2 electricity generating station, Blackburn Meadows, for T.C. J. R. Struthers, general manager and engineer, Commercial-st. Dep. £2 2s.

Sowerby Bolton.—Boundary Wall, etc.—At Brow School, for West Riding C.C. Education Officer, County Hall, Wakefield.

Welwyn Garden City.—Erection.—Of 124 houses, 8 flats and 6 garages, for U.D.C. Dep. £2 2s.

Woking.—Sorting Office.—And garage workshop, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

York.—Painting.—At various schools, for T.C. Chas. J. Minter, City E. Dep. £1 1s.

NOVEMBER 2.

Camelford.—Alterations.—And additions to five cottages at Davidstow, Treburgett and Delabole, for R.D.C. A. R. Hansford, Building S.

Chigwell, Essex.—Houses.—20, at Englands-ln., Loughton; 20 off Cascade-rd., Buckhurst-hill, and 6 off Gravel-ln., Chigwell-row, for U.D.C. E. and S. Dep. £3 3s.

Essex. — Children's Home. — At Harold Wood Hall, Romford, for C.C. J. Stuart, F., Chelmsford. Dep. £2 2s.

Newton Abbot.—Sheds.—In breeze or concrete blocks at housing estates, Moretonhampstead, Chudleigh, and Abbotskerswell, for R.D.C. A. E. Stroud, clerk, Council Offices, Kingsteignton-rd.

NOVEMBER 3.

Belfast.—Isolation Block.—At Royal Victoria Hospital. W. H. Stephens & Sons, surveyors, 13, Donegall-sq. North, Belfast. Dep. £2 2s

Hartley Wintney.—Stripping.—And retiling of 3 pairs of houses at Crown Fields, Odiham, for R.D.C. A. J. R. Watts, S.

Kilbride.—Officers' Mess.—For Commissioners of Public Works. Geo. P. Fagan, Office of Public Works, Dublin. Dep. £1.

North Berwick.—Pavilion.—At tennis courts, for T.C. A. Robertson, B.S. Dep. £1.

Rothwell (Yorks).—Houses.—39, at Lofthouse housing estate, for U.D.C. F. Hartley, architect, Council Offices, Rothwell, nr. Leeds.

✱**Skegness.**—Approaches.—To pier, Grand Parade, for U.D.C. J. Wills & Sons, architects, The Hall. Dep. £1 1s.

South Shields.—Ranges.—Sanitary fittings, hardware, and electrical installation in connection with 18 3-storey flats at Mile End-rd., for North Eastern Housing Assoc., Ltd. J. Reid, B.E., Town Hall, South Shields. Dep. £2 2s.

NOVEMBER 4.

Audenshaw.—Electrical Installation.—Of 24 houses on Wellington-st. site, for U.D.C. John Eaton & Sons, architects, Stamford-st., Ashton-under-Lyne.

Leicester.—Demolition.—Of disused factory premises at corner of Clarke-st. and Checketts-rd., for T.C. Education Dept., Newarke-st.

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Pretoria, South Africa.—Central Heating Installation.—At Zasm House Native Affairs additions, for Public Works Dept. Department of Overseas Trade, 35, Old Queen-st., London, S.W.1. Ref. T.Y. 20384/37.

Taunton. — Houses. — 34, for R.D.C. S.S. Orchard, S.

NOVEMBER 5.

Barnard Castle.—Houses, 29, also roads and sewers, for North Eastern Housing Assoc., Ltd. Smart Walker, L., architect, Cockfield, Co. Durham. Dep. £3 3s.

✱**Bedford.**—Police Station.—Quarters and court houses in Hockliffe-rd., Leighton Buzzard, for C.C. Surveyor, Architectural Dept. Dep. £1 1s.

✱**Bedford.**—Police Station.—And quarters at Station-rd., Biggleswade, for C.C. Surveyor, Architectural Dept. Dep. £1 1s.

✱**Breconshire.**—Sennybridge School.—For C.C. Clerk. Dep. £2 2s.

Bridgehill (Benfieldside).—Houses.—209, for North Eastern Housing Assoc., Ltd. John J. Eltringham, F.I.A.A., Derwent-st., Blackhill, Co. Durham. Dep £3 3s.

Burnley.—Dressing Pavilions.—At high school and elementary school playing fields, Towneley, for T.C. J. L. Beckett, B.E. and S.

Stourbridge.—Houses.—122, on Hungary Hill housing site, together with streets, foul and storm water sewers and appurtenant works, for T.C. F. Woodward, B.E. and S. Dep. £3 3s. each contract.

NOVEMBER 6.

Leicester.—Erection.—Of 400 houses and 4 shop premises, for T.C. Housing Architect, 18, High-cross-st. Dep. £1 1s.

Rhondda.—Gymnasium.—Domestic subjects room and handicraft room at Trealaw, for U.D.C. R. S. Griffiths & Ptnrs., architects and surveyors, Tonypandy. Dep. £3 3s.

NOVEMBER 8.

✱**Cardiff.**—External.—And internal painting at head post office, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Derby.—Additions.—To stores block, alterations to pantries at Infectious Diseases Hospital, for T.C. C. H. Aslin, F.R.I.B.A. Dep. £1 1s.

✱**Frinton and Walton.**—Public Convenience.—At Pier Slope, Walton-on-the-Naze, for U.D.C. H. W. Holmes. Dep. £2 2s.

✱**Hay (Hereford).**—Houses.—24, at Talgarth, and 4, at Bronllys, roads, etc., for R.D.C. Clerk.

Nantgarw.—Factories.—2, for Treforest Trading Estate on main Pontypridd-rd., for South Wales & Monmouthshire Trading Estates, Ltd. Secretary, Western Mail-chambs., Cardiff. Dep. £2 2s.

Stockton-on-Tees. — School. — And caretaker's lodge at Junction-rd., Norton, for T.C. B.E.

West Looe.—Houses.—30, at Woodlands View, for U.D.C. H. R. Venning, L., Midland Bank-chambs., Liskeard.

✱**Weymouth and Melcombe Regis.**—Erection.—Of 88 houses and 8 flats, for T.C. B.E. and S., 6, Pulteney-bldgs. Dep. £2 2s.

Yorkshire.—Works.—At various schools, for West Riding C.C. C. E. Bailey, Divisional Clerk, Education Offices, Skipton.

NOVEMBER 9.

✱**Burton-on-Trent.** — Extension. — To telephone exchange, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Croydon.—Hospital.—In Purley-way, for T.C. B.E.

Dublin.—Post Office.—At St. Andrew-st., for Commissioners of Public Works. Geo. P. Fagan, Office of Public Works, Dublin. Dep. £1.

Stoke-on-Trent.—Repairs.—To house in Burslem, for T.C. Chief Sanitary Inspector, St. Peter's-chambs., Glebe-st.

NOVEMBER 10.

✱**Caterham and Warlingham.**—Houses.—6, at Hill Top-walk, Woldingham, for U.D.C. Surveyor. Dep. £2 2s.

✱**Gosport.**—School.—At Privett-rd., for T.C. Secretary. Dep. £1 1s.

✱**Liverpool.**—Shops.—And residences, Sparrow Hall estate, for T.C. Director of Housing. Dep. £1 1s.

✱**Teddington.**—Adaptations.—Of furnace room at National Physical Laboratory, Bushy House, West Wing, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Warrington.—Laundry.—At Aikin-st. Hospital, for T.C. B.S. Dep. £2 2s.

Woodstock. — Alterations. — And decorations at town hall, for T.C. Harry W. Smith, architect, 29, George-st., Oxford. Dep. 10s.

NOVEMBER 11.

Cheltenham.—Wrought Iron Railings, etc.—At Whaddon Farm playing field, for T.C. G. Gould Marsland, B. and Water E.

✱**Letchworth.** — Library. — At Broadway, for U.D.C. C. M. Crickmer, F.R.I.B.A., 1, Lincoln's Inn Fields, London, W.C.2. Dep. £3.

✱**Merton and Morden.**—Highways Depot.—At Garth-rd., for U.D.C. E. and S. Dep. £1.

✱**Merton and Morden.**—Fencing (Iron).—At Garth-rd. cemetery, for U.D.C. E. and S. Dep. £1 1s.

✱**New Cross.** — Telephone Exchange. — For H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

✱**Ramsey (Hunts).**—Telephone Exchange.—For H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Scalloway.—Houses.—40, for Zetland C.C. H. K. Macdonald, A.R.I.A.S., County Architect, 30, Commercial-st., Lerwick.

✱**Southgate.**—Pavilion.—In Arnos-pk., for T.C. B.E. and S. Dep. £2.

✱**Southwell (Notts).**—Telephone Exchange.—For H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

NOVEMBER 12.

Cheltenham.—Houses.—Two, at Hayden, and two, in Russell-pl., for T.C. G. Gould Marsland, B. and Water E.

***Derby.**—School.—At Roe Farm estate, for E.C. C. H. Aslin, F. Dep, £1 1s.

Stourbridge.—Repairs.—Painting and decorating of 60 houses on Enville-st. estate, 172, on High Park estate, and 126, on Forge Fields estate, for T.C. F. Woodward, B.E. and S.

NOVEMBER 15.

Chesterton.—Houses.—23, in various parishes, for R.D.C. J. R. Oxenham, architect, The County Hall, Hobson-st., Cambridge. Dep. £2 2s.

Donegal.—School.—At Stranorlar, for Co. Vocational E.C. C. V. McLaughlin, architect, Letterkenny, Co. Donegal. Dep. £3 3s.

***Heston and Isleworth.**—Public Conveniences, etc.—At Inwood-pk., Hounslow, for T.C. B.S. Dep. £2 2s.

***Luton.**—Dressing Hut.—At People's Park recreation ground; dressing hut and shelter at Manor-rd., and Dallor-rd. recreation grounds, for T.C. T.C. Dep. £3 3s.

***Manchester.**—Flats.—244, at Bennett-st., Ardwick, for T.C. Housing Director. Dep. £2 2s.

***Southampton.**—School.—At Brockenhurst, for T.C. A. L. Roberts, Winchester. Dep. £1 1s.

NOVEMBER 16.

Dublin.—Cottages.—16, at 1a-16a, Esker South, Lucan, for Board of Public Health. T. B. Byrne, E., 6, Parnell-sq. Dep. £1 1s.

NOVEMBER 17.

***Heston and Isleworth.**—Open-air School.—At Busch Corner, for T.C. B.S. Dep. £2 2s.

NOVEMBER 19.

Hereford.—Houses.—174, on College-rd. estate, for T.C. Nicholson & Scriven, architects, Cathedral-chams., King-st. Dep. £5 5s.

NOVEMBER 20.

Chester.—Alterations.—And additions to City and County schools, including erection of boys' school, for T.C. E. and S. Dep. £2 2s.

NOVEMBER 22.

***Warrington.**—Admission Hospital.—Roads, etc., at County Mental Hospital, Winwick. Clerk. Dep. £5 5s.

NOVEMBER 29.

Bristol.—Superstructure.—Of municipal buildings, for T.C. F. J. Clevely and Bernard & Son, joint quantity surveyors, 26, Orchard-st. Dep. £21.

DECEMBER 17.

***Manchester.**—Erection.—Of 221 flats, 12 shops, laundry, etc., at Gorton-ln., West Gorton, and 49 flats at Red Bank, Cheetham, for T.C. Housing Director. Dep. £2 2s. each.

NO DATE.

***Leicester.**—Fibrous Plaster.—For T.C. Barnish & Silcock, architects, 58, Rodney-st., Liverpool, 1.

***Market Bosworth.**—Houses.—4, at Dadlington, for R.D.C. Goddard & Wain, architects, Station-chambs., Coalville.

MATERIALS, &c.

OCTOBER 28.

London.—Water Waste Preventers.—For H.M.O.W. Controller of Supplies, H.M. Office of Works, King Charles-st., S.W.1.

OCTOBER 30.

Bournemouth.—Bituminous Macadam.—For T.C. W. L. Clowes, B.E.

Bournemouth.—Tarred Macadam.—For T.C. W. L. Clowes, B.E.

Stamford.—Tarred Slag.—For T.C. F. R. Ryman, B.E. and S.

NOVEMBER 1.

King's Lynn.—Granite Chippings.—For T.C. J. C. Matthew, B.E.

NOVEMBER 2.

Northamptonshire.—Washed Pit Gravel.—For C.C. E. A. Black, C.S., County Hall, Northampton.

NOVEMBER 3.

Cambridgeshire.—Road Materials.—For C.C. C.S., Shire Hall, Cambridge.

Chigwell.—Granite Kerb.—For U.D.C. G. Holbourn, E. and S., Council Offices, Old Station-rd., Loughton.

NOVEMBER 6.

Berkshire.—Road and Surface-dressing Materials.—For C.C. J. F. Hawkins, C.S., Shire Hall, Reading.

Somerset.—Roadstone.—For C.C. C.S., County Hall, Taunton.

NOVEMBER 8.

Straits Settlements.—Stop and Bib Taps, etc.—For Singapore Municipal Water Department. Peirce & Williams, engineers, 1, Victoria-st., London, S.W.1.

NOVEMBER 9.

Glastonbury.—Road Materials.—For T.C. B.S.

Wincanton.—Roadstone.—For R.D.C. J. Johnson, D.S., Wincanton.

ENGINEERING, IRON AND STEEL.

OCTOBER 30.

Johannesburg, South Africa.—Mild Steel Round Reinforcing Bars.—For T.C. Department of Overseas Trade, 35, Old Queen-st., London, S.W.1. Ref. T.Y. 20382/37.

NOVEMBER 4.

Cheshire.—Widening.—Of Trafford Bridge carrying Chester-Warrington-rd. over river Gowy, and approaches thereto, for C.C. G. E. Ashforth, C.S. and Bridgemaster, Watergate House, Watergate-st. Dep. £5 5s.

Cheshire.—Bridge.—To carry Chester-Warrington-rd. over Bridgewater Canal, for C.C. G. E. Ashforth, C.S. and Bridgemaster, Watergate House, Watergate-st., Chester. Dep. £5 5s.

NOVEMBER 10.

Bolsover Colliery.—Steelwork.—In footbridge over railway on Bolsover-Chesterfield-rd., for Derbyshire C.C. C. G. Millican, C.S., County Offices, St. Mary's-gate, Derby. Dep. £2 2s.

NOVEMBER 15.

Nr. Barry Station.—Reconstruction.—Of Harbour-rd. bridge, and erection of retaining wall, for G.W. Rly. Co. E., Paddington Station, London, W.2. Dep. £2 2s.

South Africa.—Harbour Works.—Approximately 11,000,000 cu. yds. of dredging and reclamation and approximately 920,000 cu. yds. of rockbreaking, construction of mole and retaining embankment in steel-sheet piling and works in connection with work at Table Bay harbour, for South African Railways and Harbours. High Commissioner for Union of South Africa, South Africa House, Trafalgar-sq., London.

ROAD, SEWERAGE AND WATER WORKS.

OCTOBER 27.

New Windsor.—Widening.—Of Kenton's-ln., for T.C. F. N. McRae, A., B.E. and S., 16, Alma-rd., Windsor. Dep. £1 1s.

Ramsgate.—Reconstruction.—Of Harbour-parade, for T.C. B.E.

Sunderland.—Street Works.—For T.C. S. Dep. £2 2s.

OCTOBER 28.

Birmingham.—Works.—In connection with Bromford-rd. surface water sewerage, for T.C. H. J. Manzoni, City E. Dep. £2.

Cardiff.—Improvement Works.—In Yorath-rd., Clas Yorath, and Clas Odyn, Whitchurch, for R.D.C. W. Farrow, E. and S., Park House, 20, Park-pl.

Heston and Isleworth.—Resurfacing.—Of London-rd., for T.C. J. G. Carey, B.S. Dep. £2 2s.

Leeds.—Kerbing.—Flagging and tarpaving footpaths and carriageways, for T.C. Highways E., 155, Kirkstall-rd.

Lichfield.—Road.—At housing site, Boney Hay, for R.D.C. J. G. Rimand, E. and S., Rural Council House.

OCTOBER 29.

Ammanford.—Making-up.—Of Heol-Las, for U.D.C. F. W. Child, S. Dep. £1 1s.

Chepstow.—Water Mains.—In 7 parishes, for R.D.C. Hugh J. Ward, E. Dep. £2 2s.

Derby.—Culvert.—At Alvaston, for T.C. E. H. Bennett, B.E. and S., 15, Tenant-st. Dep. £5 5s.

Slough.—Making-up.—Of St. Bernard's-rd. and Salt Hill-dr., for U.D.C. Alan Bromly, E., Town Hall, Bath-rd.

OCTOBER 30.

East Kesteven.—Works.—In connection with Scopwick and District Water Supply, for R.D.C. Edwin H. Sills, E., Council Offices, Northgate, Sleaford.

Guildford.—Making-up.—Of Mountside, for T.C. J. W. Hipwood, B.E. Dep. £2 2s.

Romford.—Making-up.—Of 3 roads, for U.D.C. E. and S. Dep. £1 1s.

Spalding.—Surfacing.—Of trunk road from Luck's Bridge to half mile south of Littleworth Station, for Holland C.C. W. A. Rogerson, C.S., County Hall, Boston.

Totnes.—Footpath.—In front of Redworth and Radnor-terraces, for T.C. J. W. Smith, 10, High-st. Dep. £1 1s.

OCTOBER 31.

Long Lawford (Rugby).—Roads.—And ancillary works, for Land Settlement Assoc., Ltd., Secretary, Broadway-bldgs., Broadway, Westminster, S.W.1. Dep. £2 2s.

NOVEMBER 1.

Cannock.—Works.—For Brewood (Coven-rd., Hilltop) sewerage, for R.D.C. S. R. Biggs, E. and S. Dep. £2.

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Enfield.—Making-up.—Of streets, for U.D.C. Frank Lee, E. and S., 7, Little Park-gdns. Dep. £2 2s.

Long Eaton.—Making-up.—Of streets, for U.D.C. H. Raven, E. Dep. £2 2s.

Malling.—Making-up.—Of Oxford-st., Snodland, for R.D.C. J. W. Pell, S. Dep. £1 1s.

Motherwell and Wishaw.—Outfall Sewer.—From Camps to Tinkers'-ln., also sewer along Craigneuk-st. and Jack-st., for T.C. B.E. Dep. £5 5s.

Yorkshire.—Reasphalting.—Of playgrounds at various schools, for West Riding C.C. Percy Beaumont, Divisional Clerk, 8, St. John's North, Wakefield.

NOVEMBER 2.

***Aldershot.**—Reconstruction.—Of sewers, Waterloo-rd., for T.C. B.E. and S. Dep. £1 1s.

East Barnet.—Street Improvement Works.—For U.D.C. C. M. Barnes, E. and S. Dep. £2 2s.

Lymington.—Sewers.—For T.C. B.S. Dep. £5 5s.

South Cambridgeshire.—Water Scheme.—For western area, for R.D.C. Sands & Walker, engineers, Milton-chambs., Nottingham. Dep. £3 3s.

NOVEMBER 3.

Manchester.—Sewering Works.—At Collyhurst Development area, for T.C. City E. Dep. £2 2s.

Melford.—Water Supply.—For R.D.C. Sands & Walker, engineers, Milton-chambs., Nottingham. Dep. £3 3s.

Shardlow.—Extensions.—On Littleover sewage disposal works, for R.D.C. Elliott & Brown, engineers, Burton-bldgs., Parliament-st., Nottingham. Dep. £3 3s.

NOVEMBER 4.

Skipton.—Works.—In connection with Cononley water supply, for R.D.C. F. J. Rodwell & Son, 20, Park-row, Leeds. Dep. £2 2s.

Whitby.—Spun-iron Pipes.—From Ellerby reservoir to Runswick Bank Top, for R.D.C. Fred. J. Rodwell & Son, engineers, Prudential-bldgs., 20, Park-row, Leeds, 1. Dep. £2 2s.

NOVEMBER 5.

Bridgehill (Benfieldside).—Roads.—And sewers to serve 209 houses, for North Eastern Housing Assoc., Ltd. J. Eltringham, F.I.A.A., Architect and S., Derwent-st., Blackhill, Durham. Dep. £3 3s.

Stirlingshire and Falkirk.—Steel Main.—From Lochlands-rd., Larbert, to Bog-rd., Falkirk, for Water Board. John Cullen, Belmont, Falkirk. Dep. £2 2s.

Tarvin.—Sewerage.—And sewage disposal, for Tattenhall, for R.D.C. H. G. Bailey, clerk, Westminster-bldgs., Newgate-st., Chester. Dep. £3 3s.

NOVEMBER 8.

Saffron Walden.—Service Connections.—For R.D.C. Sands & Walker, engineers, Milton-chambs., Nottingham.

Sunderland.—Reconstruction.—Of Seaburn outfall sewer, for T.C. B.E. Dep. £5 5s.

NOVEMBER 9.

Brownhills.—Sewerage.—And sewage disposal, at Norton Canes, for U.D.C. Robert Green, M.Inst.C.E., 37, Bennett's-hill, Birmingham. Dep. £5 5s.

NOVEMBER 10.

Plymouth.—Sewers.—And other works, for T.C. City E. Dep. £2 2s.

Stoke-on-Trent.—Culverting.—Of Brook course, Belgrave-rd., Longton, for T.C. City E. and S. Dep. £2.

Twickenham.—Kerbing.—Channelling and paving of footpaths in certain streets, for T.C. Gilbert R. King, B.E. and S. Dep. £2 2s.

NOVEMBER 11.

***Merton and Morden.**—Roads.—Footpaths, water drainage, etc., at Garth-rd. cemetery, for U.D.C. E. and S. Dep. £1 1s.

NOVEMBER 12.

Reading.—Improvement.—Of approach road to G.W. Rly. station, for T.C. L. G. Mouchel & Ptnrs., Ltd., 36-38, Victoria-st., Westminster, London, S.W.1. Dep. £10.

NOVEMBER 13.

Lewes.—Carriageways.—Sewers, surface water drainage and fencing at Landport housing estate, for T.C. C. T. Butler, B.S. Dep. £2 2s.

NOVEMBER 15.

Tipton.—Works.—In connection with Upper Church-ln. housing scheme development, for U.D.C. H. N. Woodard, E. and S. Dep. £2 2s.

Lewisham.—Widening.—And reconstruction of Southend-ln. between Southern Railway (Mid-Kent Line) Bridge and junction with Bromley-rd., for London C.C. Chief Engineer (A), The County Hall, Westminster Bridge, S.E.1. Dep. £5.

NOVEMBER 16.

Loughborough.—Extension.—Of water mains in Long Whatton and East Leake, for T.C. G. & F. W. Hodson, engineers, Loughborough.

Public Appointments.

OCTOBER 25.

Penrith.—Clerk of Works.—For U.D.C. C.

OCTOBER 26.

***Tottenham.**—Architectural Assistant (Temp.).—For E.C. B.S.

OCTOBER 27.

***Derby.**—Assistant Quantity Surveyor.—For C.C. J. Harrison.

Manchester.—Architectural Assistant.—For T.C. City Architect.

***Warwick.**—Clerk of Works.—For C.C. A. C. Bunch, County Architect.

OCTOBER 29.

Somerset.—Improver (Temp.).—For C.C. A. J. Toomer, F.R.I.B.A., Taunton.

Stoke-on-Trent.—Assistant Quantity Surveyor.—For T.C. T.C.

West Sussex.—Architectural Assistants, Junior and Senior (Temp.).—For C.C. C. G. Stillman, F.R.I.B.A., Chichester.

OCTOBER 30.

***Aldershot.**—Civilian Clerks of Works (Temp.).—For War Department. Chief Engineer, Command Headquarters.

Bexley.—Architectural and Technical Assistant (Temp.).—For U.D.C. G. A. Joy, surveyor.

***Blackpool.**—Quantity Surveyor.—For T.C. B.S.

Gravesend.—Architectural Assistant.—For T.C. T.C.

NOVEMBER 1.

***Bournemouth.**—Two Architectural Assistants (Temp.).—For T.C. B.E.

***Guildford.**—Junior Architectural Assistant (Temp.).—For T.C. B.E. and S.

***New Windsor.**—Assistant Clerk of Works.—For T.C. B.E. and S.

Southampton.—Two Architectural Assistants and Two Tracing Clerks (Temp.).—For T.C. B.E.

Southampton.—Architectural Assistant (Temp.).—For T.C. B.E.

***Tottenham.**—Town Planning Technical Assistant.—For T.C. B.E. and S.

NOVEMBER 2.

***Cheshire.**—Architectural Assistant (Temp.).—For C.C. F. Anstead Browne, F.R.I.B.A.

***Irvine (Ayrshire).**—Assistant Foreman Plumber (Chemical).—For War Dept. Chief Superintendent of Ordnance Factories, Advt. No. 175, Royal Arsenal, Woolwich, S.E.18.

***Irvine (Ayrshire).**—Assistant Foreman (Building).—For War Dept. Chief Superintendent of Ordnance Factories, Advt. No. 175, Royal Arsenal, Woolwich, S.E.18.

NOVEMBER 6.

***Great Yarmouth.**—Architectural Assistant.—For T.C. T.C.

NOVEMBER 8.

***Willesden.**—Architectural Assistant (Temp.).—For T.C. B.E. and S., Kilburn.

NOVEMBER 13.

***Eccles.**—Architectural Assistant (Temp.).—For T.C. B.S.

NO DATE.

***London.**—Architectural Assistants.—For L.C.C. Architect, County Hall, Westminster Bridge, S.E.1.

***London.**—Assistants (Temp.).—For L.C.C. Architect, County Hall, Westminster Bridge, S.E.1.

***London.**—Architectural and Engineering Assistants (Temp.).—For Air Ministry. Secretary (W.9), Adastral House, W.C.2.

***London.**—Architectural Assistants.—For Admiralty. Civil Engineer-in-Chief, S.W.1.

***London.**—Assistant Quantity Surveyors and Engineering Assistants.—For Air Ministry. Secretary (W.9), Adastral House, W.C.2.

***Yorkshire.**—Clerk of Works.—D.C. R.E., Hipswell, Catterick Camp.

A Correction.

In a paragraph which appeared in our issue of September 17 under the heading of Tenders it was stated that the estimate for the interior renovations of 16 houses submitted by Mr. Walter M. Costin, 37, Portland-road, Gorse-hill, Stretford, had been accepted. We are asked to state that the price given was incorrect and no contract for internal decoration was placed with Mr. Walter M. Costin.

Building Society's Journal.

The autumn issue of the "Abbey Road Journal," now published, contains much that is of particular interest to the Society and not a little that is of wider interest to the building trade. One such feature is a series of illustrations on "Traditional Planning," showing a series of views of English villages. Another is an article on the protection of ironwork; while a third deals with "What Town and Country Planning Means to You." Altogether this is a brightly edited and interesting little journal. A copy is obtainable from Abbey House, Baker-street, N.W.1.

Painters' and Decorators' Travelling Exhibition.

The Travelling Exhibition (consisting of the prize-winning work submitted by craftsmen and apprentices for the 1937 competition organised by the National Painters' and Decorators' Joint Education Committee of England and Wales) will be displayed in London as under :—

At the Northern Polytechnic, Holloway-road, N.7.—From Monday, October 25, to Monday, November 1, inclusive (Saturday, October 30, and Sunday, October 31, excepted), from 10 a.m. to 8 p.m.

At the L.C.C. School of Building, Ferndale-road, Brixton, S.W.4.—From Friday, November 5, to Friday, November 12, inclusive (Saturday, November 6, and Sunday, November 7, excepted), from 10 a.m. to 8 p.m.

TRADE NEWS

Brickwork at Mill End School.

In connection with the Mill End Senior School, High Wycombe, Bucks (for which the architects were Messrs. Thurlow and Lucas, L.R.I.B.A.), we are asked to mention that Messrs. J. Alfred Pratt and Co. (1928), Ltd., of Bush House, Aldwych, W.C.2, supplied the Buckinghamshire multi-facing bricks.

Bituminous Products for the Building Trade.

The works formerly known as the Victoria Foundry, Paisley, have been acquired by Messrs. Stirling's Bitumen Products, Ltd., the managing director of which is Mr. W. T. Stirling. The company is specialising in the manufacture of bituminous and allied materials.

New Brick and Tile Showrooms, London.

New premises for the London offices and showrooms of the Ibstock Brick and Tile Co., Ltd., have been constructed at the L.M.S. Railway Goods Depot, High-street, Kensington, W.8, and these are now in occupation by the company. The new telephone number is Western 1281-2. The showrooms afford improved facilities for the display of Ibstock products, especially for the wide range, in colour and variety, of their facing bricks and roofing tiles.

Timber Structures.

A brochure of illustrations, details and prices of timber buildings for various purposes has been issued by Messrs. D. McMaster and Co., of Mount Bures Works, Bures, Essex. Certain of the sheds and buildings illustrated should be of particular interest to contractors for site work, as they appear to be of good material and soundly constructed besides being reasonably priced. These structures are completely sectional and are supplied ready for easy erection.

1938 Commercial Motor Vehicles.

The Commercial Motor Transport Exhibition at Earl's Court—November 4 to 13—is technically of great interest, in that being a biennial event, the industry has two years for developing new models from show to show. This year's exhibition, we learn, is likely to show many advances in the design of passenger- and goods-carrying vehicles. Details of each vehicle shown may be gathered quickly by reference to the issue dated October 23 of "Motor Transport." This is the first of three special show numbers, and forms the Buyers' Guide, in which the full specification of all passenger- and goods-carrying motor vehicles on the British market are tabulated. The issue of "Motor Transport" dated October 30 will be a guide to the show, and that of November 6 will contain a fully illustrated show report.

A New Fixing Device.

About two years ago the Rawlplug Co., Ltd., of Rawlplug House, Cromwell-road, S.W.7, introduced a new fixing device known as the "Rawlbolt." They have now been able to revise the range to a point where it is able to cover all the problems that the fixing trade is likely to meet. The introduction of the "Rawlbolt" was made in a list of 24 different sizes for the two types, bolt projecting and loose bolt type. The new list, recently introduced, has taken this range down to 13 sizes of each type, with the addition of an extra device known as the "Rawlbolt collar." The company believe that the collar will add still further to the utility and convenience of "Rawlbolts" and take care of the fixing of articles of all thicknesses. By means of the collar the unsightly appearance of a projecting bolt is obviated by means of the collar taking up the excess. When making fixtures in weak material it is an advantage to sink the "Rawlbolt" deeper than would be necessary when fixing to material of normal strength. By slipping "Rawlbolt collars" on to the bolt, and making a deeper hole, the "Rawlbolt" shield or fixing unit is necessarily dropped deeper into the material than would otherwise be the case. By adopting this suggestion when tackling weak material, the danger of the material splitting will be largely avoided. Full details and prices are obtainable upon request to the company.

CURRENT AND PROPOSED BUILDING WORK*

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Alderley Edge.—U.D.C. instructed S. to prepare plans for offices.

Alfreton.—Miners' Welfare Committee propose pithead baths at Swanwick Collieries. Plans by J. H. Forshaw, F., chief architect, Romney House, Marsham-st., S.W.1.

Ashton-in-Makerfield.—U.D.C. approved: assembly hall, Chapel-st., Salvation Army, 101, Queen Victoria-st., E.C.4.

Barnsley.—Miners' Welfare Central Fund Committee proposes pithead baths at North Gawber Collieries, Mapplewell. Plans by J. H. Forshaw, F., chief architect, Romney House, Marsham-st., S.W.1.

Batley.—Co-operative Society proposes branch at Hey Beck-la. and Leeds-rd.

Benfieldside.—Tenders invited by North-Eastern Housing Association, Northumberland-rd., Newcastle-on-Tyne, for 209 houses, for U.D.C. Architect, J. J. Entringham, Derwent-st., Blackhill.

Birmingham.—Blocks of offices now in course of demolition in Waterloo-st., to make way for block of office premises to be known as "Cavendish House." Promoter is Jack Cotton, Waterloo-st., Birmingham.

Blackburn.—T.C. approved: 44 houses and garages and lay-out, off Lammack-rd., Russell Bros.

Bolton.—Redheads, Ltd., propose reconstruction of premises, corner of Deansgate and Knowley-st. Architect, A. Ernest Shennan, F., North House, 17, North John-st., Liverpool.

Bromley.—T.C. approved: Henry Boot (Garden Estates), Ltd.'s 25 houses, Dartmouth-rd., and 8 and 25 houses, Kechill-gdns.; L. A. Culliford & Partners, 155 houses, Bourne Vale estate.

Bromsgrove.—R. H. Davis proposes 54 houses, Tanyard-la., Alvechurch.—R.D.C. approved plans for church hall, Highters' Heath, for Birmingham Diocesan Commissioners.

Camberwell.—Plans and applications approved by B.C. :—Pennack-rd., No. 20, factory on land adjoining; The Avenue, Gipsy Hill, between Farquhar-rd. and No. 13, and Jasper-rd., lay out new street and erect 20 houses; Champion-hill, Durlstone Manor Hotel, flats on site; Denmark-hill, Alliance-works, Milkwell-yard, additions to premises; Champion-hill, Nos. 1, 3 and 5, 231 flats and 41 garages and porter's lodge; Old Kent-rd., next Regal Cinema, to convert part of old tramway depot into motor show-room and to erect shop on part of old tramway depot; Ormonde-pl., 2-storey factory extension Neate-st., 171-175, and Dalbiac-st., 1-9, extension of factory; Meeting House-la., 168 and 170, warehouse; Peckham-gr., No. 60, factory extension; Southampton-way, 252-256, premises; Rye-la., 65, 67 and 69, and Cerise-rd., 4 and 5, shop and cafeteria; Southampton-way, 20 and 22, flats; Gibbon-rd., Nos. 79-81, block of flats; Lomond-gr., Manor Laundry, additions; Queen's-rd., No. 134, rebuild warehouse; and Fowler-st., extension to factory.

Cannock.—Plans approved by U.D.C. for 198 houses, for Council.

Cannock.—U.D.C. approved plans for 16 houses, Platt-st., Hightown; 12 houses, Mount-st.; 8 houses, Florence-st. and Heath-st., Hednesford; and 162 houses, Longford-rd. housing estate, Cannock.

Chesterfield.—Wilcockson & Cutts, architects, Saltergate, to prepare plans for shops, offices and flats, corner of Gluman gate and Knifesmithgate, and corner of Soresby-st. and Knifesmithgate, for George Bradley, Furness-cham., Stephenson-pl.

Corby.—Members of Scottish Presbyterian Church propose church, at £10,000. Architects, H. L. Anderson and D. N. Niven, South Lodge, South Bolton-gdns., S.W.5.

Coulsdon and Purley.—U.D.C. to make application to M.H. for £1,880 for footbridge over railway at New Barn-la., Kenley.—Surrey C.C. to erect secondary school for girls on site at Bradmore Green.—M.H. consented to borrowing by Council of £508 for children's boating pool at Kenley recreation ground.—Council approve public conveniences on land forming part of island site, junction of Addington-rd. and Old Farleigh-rd., Selsdon, S. to prepare detailed plans.

Coventry.—Members of Ford-st. Methodist Church propose chapel seating accommodation for 300 persons at Heath-rd., Stoke, at £4,500. Architects, C. Redgrave & Son, Barbican-cham., Earl-st.

Coxhoe.—Co-operative Society to build premises.

Cyfarthfa.—British Sewing Machines Co., Ltd., to erect factory.

Dewsbury.—Pioneers' Industrial Society, Ltd., Commercial-st., proposes branch, Overthorpe housing estate.

Fulham.—B.C. approved application for erection of blocks of flats and garages between Parkview Mansions and the Drill Hall, Fulham High-st.

* See also List of Contracts Open.

*** **In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.** **List of abbreviations on page 754.**

Gerrards Cross.—Shopping parade, with showrooms and flats. Plans by Alfred Ospalak, L., 25, Victoria-st., S.W.1.

Hayes.—U.D.C. approved:—layout 14 houses, Church-rd., and layout 8 houses, Lake estate, G. Wimpey & Co., Ltd.; 7 shops and 18 houses, Dawley-rd., T. Jones; shops and three flats, Station-rd., Knight & Co., Ltd.; 4 shops and maisonnettes, Coldharbour-ln., Evelyn Property and Investment Co.; 6 shops and flats, Uxbridge-rd., J. Gough; layout, 20 semi-detached houses, Lake estate, G. Wimpey & Co., Ltd.; layout, 46 houses, Seaton-rd., Bourne Farm estate, G. Wimpey & Co., Ltd.

Hebburn-on-Tyne.—J. M. Black (Jun.), builder, Station-rd., to erect 22 flats in Frobisher-st., and 14 flats, Hedgeley-rd.—North-Eastern Housing Association, Northumberland-rd., Newcastle-on-Tyne, to be asked to erect during next few months 155 houses on behalf of U.D.C. Architects, Page, Son and Bradbury, 67, King-st., South Shields.—Layout plans been prepared by Capt. C. McGhie, agent to Carr-Ellison Estates, Ltd., Collingwood-bldgs., Collingwood-st., Newcastle-on-Tyne, for remainder of Victoria-rd. West estate—U.D.C. to erect public conveniences in Victoria-rd. East, Victoria-rd. West, Lyon-st., Prince Consort-rd., Argyle-st. and Whickham-rd.—Palmers Hebburn Co., Ltd., had prepared plans for oil fuel storage tank and pumping station at their works.

Heckmondwike.—West Riding E.C. approved plans for library at grammar school, at £2,700.

Hendon.—B.S. reported that L.P.T.B. are prepared to approve plans for proposed convenience on site at rear of "Ambassador Theatre," at £3,000.—Handley, Page, Ltd., to be offered use of approximately 10 acres of land at Woodfield Park in connection with preparation of ground and erection of a pavilion.—Plans passed: Amended lay-out of 25 houses, Engel Park, Mill Hill, A. Gorbing; 26 houses, 1-26, east side, Engel Park, Mill Hill, Clark & Knox, Ltd., per A. Gorbing; amended plan of extension to pavilion, Hall-ln., Hendon, Associated British Sports & Social Club, per W. R. Glen; revised lay-out, 2-28 and 34-36, Kenilworth-rd., Edgware, Taylor Woodrow Estates, Ltd.

Jarrow.—Jarrow and Hebburn Co-operative Society propose branch drapery department in Primrose area. G. C. Young, Grange-rd. West, architect.

Keighley.—E. G. Felgate, borough architect, prepared plans for alterations to office of Borough Engineer and Borough Architect in Cook-la., at £5,350.

Leigh.—T.C. to make application to M.H. for sanction to erect 59 houses by direct labour in Etherstone Ward and to borrow £56,819.

Lewisham.—B.C. approved: Clearance area schemes in Patrol-pl.; Queen's Bench; Holbeach-rd.; Willow-walk; Blackshaw's-alley; and Bromley-rd.—Plans passed: R. J. Angel, extension to premises at The Avenue, Blackheath; H. Macintosh, 27 houses, Ringmore Rise; A. du T. Bottomley, for the L.C.C., 82 cottages and 114 flats, Whitefoot-ln. estate; L. A. Culliford & Partners, houses in Brangbourne-rd., Catford; T. F. Ingram, addition at "The Old Tiger's Head," p.h., Lee Green.

Lincoln.—Number of slum clearance houses are to be erected on Monks Tower Estate, for T.C.—166 houses on St. Giles' Estate (£53,660), for T.C. Plans by City E. and S.

Liverpool.—Land situate on southerly side of Edwards-ln., Speke, to be sold by Corporation to B. C. Murch & Co., Ltd., 27, Netley-st., Liverpool, for building, and land on east side of Speke Hall-rd., Speke, to James Austin, Ltd., 32, Great George-sq., also land on southerly side of Edwards-ln., Speke, to the British & Colonial Furniture Co., Ltd., 7, Cavendish-sq., London, W.1, trading as James Woodhouse & Son, 44-50, Lord-st., Liverpool.—M.H. forwarded formal consents to borrowing of £84,418 and £4,762 in connection with provision of police training school and mounted headquarters at Mather-av.

Lowestoft.—T.C. to spend £28,385 in developing Esplanade.

Maidstone.—Corporation to have exteriors of 351 houses in borough painted.

Margate.—T.C. to erect promenade and sea wall at Minnis Bay, Birchington, at £44,835.

Newcastle (Staffs.).—Cotton, Son and Hulme, architects, Piccadilly, Tunstall, are preparing developments of land at Porthill Park for 42 houses, for Dr. P. J. Garvey, Oaklands, Porthill, Hanley.

Nottingham.—Sanction given to borrowing of £183,547 for police and fire brigade headquarters.

Oundle.—Oundle & Thrapston R.D.C. to build 240 houses. Housing and Estate Manager, F. W. Grant.

Oxford.—Lecture hall to seat 200 students at School of Geography, Mansfield-rd., for Senate of University of Oxford. Plans by Thomas Worthington & Sons, 178, Oxford-rd., Manchester.

Portsmouth.—T.C. approved: A. A. Jacobs, 29 garages (to flats), Craneswater-park; W. H. Hellier, block of 15 flats and 11 garages, Northern-parade; Brickwood & Co., Ltd., rebuilding p.h., "Granada" Hotel, Granada-rd.; C. & A. Modes, shop and showrooms (Bedford Hotel), 136-138, Commercial-rd.

Prudhoe-on-Tyne.—North-Eastern Joint Board for Care of Mentally Defective to obtain fresh tenders for recreation hall at Colony. Architects, W. & T. R. Milburn, 17, Fawcett-st., Sunderland.

Rhondda.—E.C. to erect nursery school at Trealaw.

St. Pancras.—B.C. approved plans and applications: Child welfare and training centre on northern portion of Foundling Hospital site, Guilford-st.; two-storey building, 152-156, Kentish Town-rd.; alterations at 26, 27 and 28, Bernard-st. and erection of garage and bedroom addition abutting upon Colonade-mews; two-storey building site approached from William-st.; small two-storey factory building, 167-173, Gray's Inn-rd.; block of shops and flats, 86-90, Cleveland-st., and abutting upon Grafton-st. and Fitzroy-mews; building, at 50, Tottenham Court-rd. and 6, 8 and 10, Whitfield-st.; five-storey building for the Presbyterian Church of England, corner of Compton-st. and Wakefield-st.; extension of Express Dairy Co., Ltd.'s premises, Tavistock-pl.; six-storey building, abutting upon Heathcote-st. and Prospect-terr.; boot and shoe factory, Stanhope-bldgs., 50-56, Stanhope-st.; two-storey building, 152-156, Kentish Town-rd.; boot and shoe factory, 167-173, Gray's Inn-rd.

Saffron Walden.—R.D.C. approved tenders for houses at Ashdon, Chrishall, Debden, Elmdon, Hadstock, Newport, Radwinter, Great and Little Sampford and Great Chesterfield, at £33,881.

Sheffield.—M. J. Gleeson, Ltd., builders, 822, Chesterfield-rd., preparing plans for proposed shops with flats over at Raisen Hall, Herries-rd.—Wigfull, Inott & Ridgeway, architects, 14, Parade-cham., preparing plans for social club, Lamb Hill House, Richmond-rd.

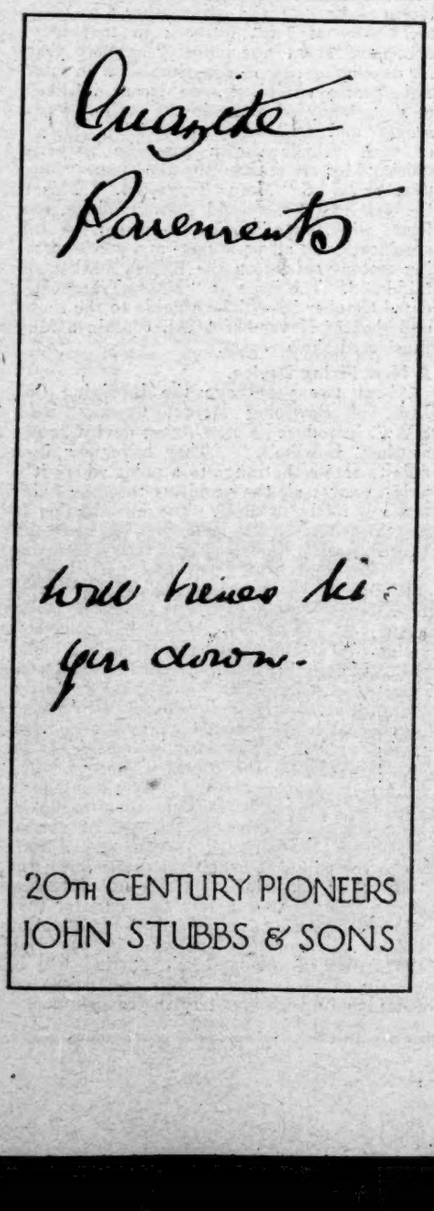
Sheffield.—T.C. approved: Office extensions, Bessemer-rd., Arthur Lee & Sons, Ltd.; University additions, Winter-st., Council of the University of Sheffield; 236 houses (Scheme 9), Parson Cross estate, Estates Committee; saleshop, showrooms and offices, Cambridge-st. and Bethel-walk, George Binns, Ltd.; billiards room and bedrooms, Brookhouse Hill, J. Longden.

Shrewsbury.—M.H. has given its consent to T.C.'s application to raise loan of £40,000 for building of dwellings for working classes.

Southampton.—T.C. approved: W. H. Saunders & Son, for E. R. Wright & Son, two shops, workshop, offices and stores, etc., Hanover-bldgs.; W. H. Saunders & Son, for F. A. Hendy & Co., Ltd., garage, workshops and motor showrooms, Sussex-rd. and Vincent's-walk; T. Clark & Son, Ltd., 177 houses, Cornwall-rd., Litchfield-rd., etc. (Midanbury estate) and 185 houses, Cornwall-rd., Litchfield-rd., etc. (Midanbury estate); Hamtun Estates, Ltd., 85 houses, new street off Pear Tree-av.; Oscar Faber, for Pirelli-General Cable Works, Ltd., additions to factory, Western Esplanade; New Ideal Homesteads, Ltd., 195 houses, new streets off Pear Tree-av. (Ridgeway Park estate); W. S. Mackintosh, for W. T. Stickland, motor showroom and 7 lock-up garages, 10, Shirley Park-rd.

South Shields.—Jarrow and Hebburn Co-operative Society propose to reconstruct drapery departments, etc., in Westoe-rd. G. C. Young, Grange-rd. West, Jarrow, architect.

Stockton.—Girls' school to be built at Norton. J. P. Wakeford, B.E.



Stourport.—A. T. and Bertram Butler, F., architects, 14, Waterloo-rd., Wolverhampton, for new "Railway Inn," Minster-rd., for Kimberley Brewery Co.

Sunbury.—U.D.C. approved plans for 108 houses at Sunbury Cross estate, Vicarage-rd., Freehold Building & Land Development Co., Ltd.

Sunderland.—T.C. to ask North-Eastern Housing Association, to erect on its behalf 362 flats in Burleigh-st., 915 houses at Springwell Farm, 166 at North Hylton-rd., and 168 at Marley Potts.—Plans approved for out-patients' department and casualties block and four-ward block, in New Durham-rd., for Royal Infirmary. No contracts let, but quantities being prepared. Architects, W. & T. R. Milburn, 17, Fawcett-st.—It is proposed to erect a café and store in Fawcett-st. for Binns, Ltd. Architects, W. & T. R. Milburn.

Swansea.—B.C. to erect community centre at Townhill at £12,000.—Plans passed: House, garage and filling station, Goitre Fawr-rd., Cole and Day.—Glamorgan C.C. to erect elementary school at Bishopston.

Wakefield.—R.D.C. approved: 30 houses, Paintthorpe-la., Green estate; 12 houses, New Crofton; 12 houses, Jubilee-rd., Sharlston; for Housing Committee.

Walsall.—G. Linnecor, builder, 154, New Town-rd., Aston Cross, Birmingham, propose 170 houses, between Skip-la. and Lodge-rd., Cottage Farm estate.

Wallsend.—Complete plans now to be prepared by B.E. for maternity and child welfare centre.

Wandsworth.—B.C. approved plans and applications as follows: Balham Hill, blocks of flats at Nos. 28/30; Upper Tooting-rd., flats on site at rear of "King's Head" p.h.; Balham High-rd., 33 lock-up garages and 2 squash courts, rear of Du Cane-court; Balham High-rd., development of the site known as No. 215 as car servicing depot; Fairfield-st., Fairfield, block of flats and shops at Nos. 42/58 (amended plans); Roehampton-ln., houses abutting also upon rear boundary of premises in Akehurst-st.; Walkers-pl., Putney, development of site of Nos. 4, 5 and 6, flats; Upper Richmond-rd., Putney, alterations to "Railway Hotel," No. 202; Garratt-ln., Springfield, alterations and additions to "Leather Bottle" p.h.; Upper Richmond-rd., Putney, flats and garage, Nos. 384/386; Tooting High-st., shops and flats at Nos. 172/174; Putney Heath, block of flats on site of Grantham House; Kimber-rd. and Burr-rd., Southfields, blocks of flats on site abutting upon; Trinity-rd., Balham, flats at Nos. 321/329; Wandsworth-rd., Clapham North, rebuilding of "The Queen" p.h.; Mitcham-rd., Tooting, shops and offices at Nos. 208 and 208a; West Hill, Southfields, block of flats at rear of No. 202; Upper Richmond-rd., Putney, block of flats, shops and garages at No. 73; Larkhall-ln., Clapham North, extension to Oxford Laundry; Eastwood-st., Streatham, motor-coach garage; Streatham High-rd., showroom and offices at No. 245; Thornton-rd., Clapham Park, block of 2 squash rackets courts at the Grafton Lawn Tennis Club; Streatham High-rd., rebuilding of Nos. 194/198; Strathville-rd., Springfield, factory at Duntshill Mills; Roehampton-ln., Putney, single-storey building at Queen Mary's (Roehampton) Hospital; Brixton Hill, Streatham, block of flats and garages on site of Nos. 241/245; Maskell-rd. and Riverside-rd., Springfield, addition to factory premises; Putney Hill, block of flats at No. 53 (Pitlochry); Fairfield-st., Fairfield, 6-story block of shops and flats; Putney Heath, 8 blocks of 4-storey flats, 150 lock-up garages and a combined garage and sports pavilion on site of "Grantham House"; Walker's-pl., Putney, block of flats on site of Nos. 4, 5 and 6; Upper Tooting-rd., 4-story block of flats on site at rear of Nos. 92/94; F. H. Ayling, Ltd., alterations to Wandsworth Casual Ward, Swaffield-rd.; Wates, Ltd., 58 houses, Burntwood Grange estate, Burntwood-ln.; Dean & Co. (Peckham), Ltd., alterations and additions at Wholesale Wine Distributors' premises, Aslett-st.; buildings at car park on western side of Streatham Hill, abutting upon Blairderry-rd. and Ardwell-rd.; new "Perseverance" beerhouse, White's-square area, Clapham; R. Sharp, additions at 174/178, Clapham Park-rd.; F. Button, alterations and additions at Clapham tram depot, Clapham High-st.; Cripps Construction Co., Ltd., factory in Strathville-rd.; store building at tram depot, Jews-row; Upper Richmond-rd., block of flats on site of No. 261; Poynders-rd., Clapham South, blocks of flats on site of No. 70; Balham High-rd., shops and flats at No. 197; Wimbledon Park-rd., Southfield, additions to garage at 252-260; Lacy-rd., Putney, erection of building on site of "Jolly Gardeners" p.h., at junction of West-pl.; Clapham-rd., Clapham North, block of flats and garages at Nos. 386/404; Rectory-grove, Clapham North, alterations to "Bull's Head" p.h.—Conveniences for both sexes to be erected on surplus land at 2, 4, 6 and 8, Roehampton High-st. B.E. to obtain tenders. Estimated cost £2,129.

Wednesbury.—T.C. approved: E. Smith & Son, 42 houses, Crankhill-ln.

West Hartlepool.—Detailed plans to be prepared for additions to Cameron Hospital, to cost about £12,000. F. Durkin, B.E., is honorary architect.

West Hartlepool.—T.C. approved: C. M. Yuill, 54 houses, Ventnor and Oakland-avs.; Northumberland & Durham Real Estate Co., lay-out plan and sections for 80 houses, Kendal-rd. estate.

West Riding.—E.C. approved plans for improvements of Morley Grammar School, at £3,600.

Westminster.—City Council recommended new convenience in gardens adjoining Chelsea Bridge, at £7,000, and £950 for exterior decorations and renewal of lantern light over first class swimming pool at Gt. Smith-st. baths.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1937.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.
Aberavon	1/7	1/2½
Aberdare	1/6½	1/2
Abergavenny	1/6½	1/2
Abingdon	1/5½	1/1½
Accrington	1/7	1/2½
Aldeburgh	1/3	11½
Aldershot	1/5	1/0½
Alfreton	1/7	1/2½
Alnwick	1/6½	1/2
Altrincham	1/7	1/2½
Amble	1/6½	1/2
Amersham	1/5½	1/1½
Ammanford	1/7	1/2½
Andover	1/5	1/0½
Ardingley	1/5	1/0½
Arundel	1/5	1/0½
Ascot	1/5	1/0½
Ashby-de-la-Zouch	1/5½	1/1½
Ashford (Kent)	1/4½	1/0½
Ashford (Middlesex)	1/7	1/2½
Ashington	1/6½	1/2
Ashstead	1/7	1/2½
Ashton-under-Lyme	1/7	1/2½
Aylesbury	1/5	1/0½
Aylsham	1/4	1/-
Bagshot	1/5	1/0½
Banbury	1/5	1/0½
Barnsley	1/7	1/2½
Barnstaple	1/5	1/0½
Barrow-in-Furness	1/7	1/2½
Barry	1/7	1/2½
Basingstoke	1/5	1/0½
Bath	1/6	1/1½
Batley	1/7	1/2½
Beaconsfield	1/5½	1/1½
Beccles	1/3½	11½
Bedford	1/6	1/1½
Berkhamsted	1/4½	1/0½
Berwick	1/6	1/1½
Beverley	1/7	1/2½
Bexhill-on-Sea	1/5	1/0½
Bideford	1/5	1/0½
Biggleswade	1/4½	1/0½
Billericay	1/4½	1/0½
Birchington	1/4½	1/0½
Birkenhead	1/8½	¶
Birmingham	1/7	1/2½
Bishop Auckland	1/6½	1/2
Bishops Stortford	1/5½	1/1½
Blackburn	1/7	1/2½
Blackpool	1/7	1/2½
Blyth	1/7	1/2½
Bognor Regis	1/5	1/0½
Bolton	1/7	1/2½
Bournemouth	1/6	1/1½
Bracknell	1/5	1/0½
Bradford	1/7	1/2½
Bradford-on-Avon	1/4*	1/-
Braintree	1/5	1/0½
Brentwood	1/6½	1/2
Bridgwater	1/5	1/0½
Bridlington	1/6½	1/2
Brighouse	1/7	1/2½
Brighton	1/6	1/1½
Bristol	1/7	1/2½
Broadstairs	1/4½	1/0½
Bromsgrove	1/6	1/1½
Buckley	1/7	1/2½
Bungay	1/3	11½
Burnham-on-Crouch	1/3½	11½
Burnley	1/7	1/2½
Burslem	1/7	1/2½
Burton-on-Trent	1/7	1/2½
Bury	1/7	1/2½
Bury St. Edmunds	1/4½	1/0½
Buxton	1/6½	1/2
Byfleet	1/5½	1/1½
Cambridge	1/6½	1/2
Canterbury	1/4½	1/0½
Cardiff	1/7	1/2½
Carlisle	1/7	1/2½
Carnforth	1/7	1/2½
Castleford	1/7	1/2½
Caterham	1/7	1/2½
Chard	1/4*	1/-
Chatham	1/5½	1/1½
Chelmsford	1/5½	1/1½
Cheltenham	1/5½	1/1½
Chepstow	1/6	1/1½
Chertsey	1/6	1/1½
Chester	1/7	1/2½
Chesterfield	1/7	1/2½
Chichester	1/5	1/0½
Chorley	1/7	1/2½
Cirencester	1/4½*	1/0½
Clacton	1/5	1/0½
Cleveleys	1/7	1/2½
Clitheroe	1/7	1/2½
Cobham (Surrey)	1/6	1/1½
Colchester	1/6	1/1½
Colwyn Bay	1/6	1/1½
Congleton	1/6½	1/2
Coventry	1/7	1/2½
Cranbrook	1/4½	1/0½
Cranleigh	1/5	1/0½
Crawley	1/5	1/0½
Crewe	1/6	1/1½
Cromer	1/4	1/-
Crowborough	1/5	1/0½
Cuckfield	1/5	1/0½
Darlington	1/7	1/2½
Darwen	1/7	1/2½
Daventry	1/5½	1/1½
Deal	1/4½	1/0½
Denbigh	1/5½	1/1½
Derby	1/7	1/2½
Devizes	1/3½*	11½
Dewsbury	1/7	1/2½
Didcot	1/5	1/0½
Diss	1/3½	11½
Doncaster	1/7	1/2½
Dorchester	1/4½*	1/0½
Dorking	1/5½	1/1½
Dover	1/4½	1/0½
Dovercourt	1/5	1/0½
Driffield	1/5½	1/1½
Droitwich	1/6	1/1½
Dudley	1/7	1/2½
Dunstable	1/5	1/0½
Durham City	1/7	1/2½
Eastbourne	1/6	1/1½
E.Glam.(Mon.Val.)	1/6½	1/2
East Grinstead	1/5	1/0½
Edenbridge	1/5	1/0½
Ely	1/3½	11½
Epping	1/7	1/2½
Exeter	1/6†	1/1½
Exmouth	1/5	1/0½
Fakenham	1/3½	11½
Falmouth	1/5½	1/1½
Fareham	1/6	1/1½
Faversham	1/4½	1/0½
Felixstowe	1/5½	1/1½
Filey	1/5½	1/1½
Fleetwood	1/7	1/2½
Flint	1/6½	1/2
Folkestone	1/4½	1/0½
Frinton-on-Sea	1/5	1/0½
Frome	1/4*	1/-
Gainsborough	1/6	1/1½
Gateshead	1/7	1/2½
Gillingham (Kent)	1/5½	1/1½
Glossop	1/7	1/2½
Gloucester	1/6†	1/1½
Godalming	1/5	1/0½
Goole	1/7	1/2½
Gosport	1/6	1/1½
Grantham	1/5½	1/1½
Gravesend	1/6½	1/2
Great Yarmouth	1/5	1/0½
Grimsby	1/7	1/2½
Guildford	1/5	1/0½
Guilsborough	1/5½	1/1½
Halifax	1/7	1/2½
Hanley	1/7	1/2½
Harpenden	1/5½	1/1½
Harrogate	1/7	1/2½
Hartlepools	1/7	1/2½
Harwich	1/5	1/0½
Haslemere	1/5	1/0½
Hastings	1/5	1/0½
Hatfield	1/6	1/1½
Haywards Heath	1/5	1/0½
Hednesford	1/6½	1/2
Hemel Hempstead	1/6	1/1½
Henley-on-Thames	1/5	1/0½
Hereford	1/5*	1/0½
Herne Bay	1/4½	1/0½
Hertford	1/6	1/1½
Heysham	1/7	1/2½
Hitchin	1/5½	1/1½
Hoddesdon	1/6	1/1½
Holt (Norfolk)	1/3	11½
Horley	1/5	1/0½
Horsham	1/5	1/0½
Horwich	1/7	1/2½
Huddersfield	1/7	1/2½
Hull	1/7	1/2½
Hunstanton	1/3½	11½
Huntingdon	1/4	1/-
Ilfracombe	1/5	1/0½
Ingatestone	1/5	1/0½
Ipswich	1/6	1/1½
Isle of Thanet	1/4½	1/0½
Isle of Wight	1/4	1/-
Keighley	1/7	1/2½
Kenilworth	1/7	1/2½
Kettering	1/6½	1/2
Kidderminster	1/6	1/1½
King's Lynn	1/4½	1/0½
Kirkham	1/7	1/2½
Knowle	1/6½	1/2
Lancaster	1/7	1/2½
Leamington	1/6½	1/2
Leatherhead	1/6	1/1½
Leeds	1/7	1/2½
Leicester	1/7	1/2½
Leighton Buzzard	1/4	1/-
Letchworth	1/5½	1/1½
Lewes	1/5	1/0½
Lichfield	1/6	1/1½
Lincoln	1/7	1/2½
Littlehampton	1/5	1/0½
Liverpool	‡1/8½	¶
Llandudno	1/6	1/1½
Llanelly	1/7	1/2½
London		
12 m. radius	1/8½*	1/3½
12-15 m. radius	1/8*	1/3
Long Eaton	1/7	1/2½
Longton	1/7	1/2½
Loughborough	1/7	1/2½
Louth	1/5½	1/1½
Lowestoft	1/5	1/0½
Luton	1/6½	1/2
Macclesfield	1/6½	1/2
Maidenhead	1/5½	1/1½
Maidstone	1/5½	1/1½
Malvern	1/5½	1/1½
Manchester	1/7	1/2½
Manningtree	1/3½	11½
Mansfield	1/7	1/2½
March	1/4	1/-
Margate	1/4½	1/0½
Market Harborough	1/6	1/1½
Matlock	1/5½	1/1½
Melton Constable	1/3	11½
Melton Mowbray	1/6	1/1½
Merthyr Tydfil	1/6½	1/2
Middlesbrough	1/7	1/2½
Middleton	1/7	1/2½
Middlewich	1/6	1/1½
Milford Haven	1/5	1/0½
Morecambe	1/7	1/2½
Morley	1/7	1/2½
Mundesley	1/4	1/-
Nantwich	1/6	1/1½
Nelson	1/7	1/2½
Newark-on-Trent	1/6	1/1½
Newbury	1/5	1/0½
Newcastle-on-Tyne	1/7	1/2½
Newcastle-u-Lyme	1/7	1/2½
New Forest	1/4	1/-
Newmarket	1/5	1/0½
Newport, Mon.	1/7	1/2½
Newport Pagnell	1/5	1/0½
Northampton	1/7	1/2½
Norwich	1/6½	1/2
Nottingham	1/7	1/2½
Nuneaton	1/7	1/2½
Oakham	1/5½	1/1½
Oldham	1/7	1/2½
Ormskirk	1/7	1/2½
Oxford	1/6½	1/2
Oxted	1/5½	1/1½
Paignton	1/6½	1/2
Peterborough	1/6½	1/2
Plymouth	1/7†	1/2½
Pontefract	1/7	1/2½
Pontypridd	1/6½	1/2
Portsmouth	1/6	1/1½
Port Talbot	1/7	1/2½
Preston	1/7	1/2½
Pulborough	1/5	1/0½
Ramsgate	1/4½	1/0½
Reading	1/6	1/1½
Redditch	1/6	1/1½
Redhill	1/5½	1/1½
Reigate	1/5½	1/1½
Retford	1/5½	1/1½
Rickmansworth	1/6½	1/2
Ripon	1/5½	1/1½
Rochdale	1/7	1/2½
Rochester	1/5½	1/1½
Rugby	1/7	1/2½
Saffron Walden	1/3½	11½
St. Albans	1/6½	1/2
St. Helens	1/7	1/2½
St. Neots	1/4	1/-
Salisbury City	1/4*	1/-
Salisbury Plain	1/4*	1/-
Sawbridgeworth	1/5	1/0½
Saxmundham	1/3	11½
Scarborough	1/6½	1/2
Scunthorpe	1/7	1/2½
Selby	1/7	1/2½
Sevenoaks	1/5½	1/1½
Sheerness	1/4½	1/0½
Sheffield	1/7	1/2½
Shipley	1/7	1/2½
Shoeburyness	1/6½	1/2
Shoreham	1/6	1/1½
Shrewsbury	1/6	1/1½
Sittingbourne	1/4½	1/0½
Skegness	1/6	1/1½
Sleaford	1/5½	1/1½
Slough	1/6	1/1½
Southampton	1/6	1/1½
Southend-on-Sea	1/6½	1/2
Southport	1/7	1/2½
South Shields	1/7	1/2½
Spalding	1/4½	1/0½
Stafford	1/6½	1/2
Staines	1/6	1/1½
Stamford	1/5½	1/1½
Stevenage	1/5½	1/1½
Stockport	1/7	1/2½
Stockton-on-Tees	1/7	1/2½
Stoke-on-Trent	1/7	1/2½
Stourbridge	1/6½	1/2
Stourport	1/6	1/1½
Stowmarket	1/3½	11½
Stratford-on-Avon	1/5½	1/1½
Stroud	1/5½†	1/1½
Sunderland	1/7	1/2½
Sutton Coldfield	1/7	1/2½
Swaffham	1/3	11½
Swanage	1/5*	1/0½
Swansea	1/7	1/2½
Swindon	1/5½*	1/1½
Tamworth	1/6½	1/2
Taunton	1/5	1/0½
Tenterden	1/4½	1/0½
Tewkesbury	1/5½*	1/1½
Thetford	1/3½	11½
Thorpe Bay	1/6½	1/2
Todmorden	1/7	1/2½
Tonbridge	1/5½	1/1½
Torquay	1/6½	1/2
Totnes	1/5½	1/0½
Trowbridge	1/4*	1/-
Truro	1/4	1/-
Tunbridge Wells	1/5½	1/1½
Uppingham	1/5½	1/1½
Uttoxeter	1/5½	1/1½
Wakefield	1/7	1/2½
Walsall	1/7	1/2½
Walsden	1/7	1/2½
Walton-on-Naze	1/5	1/0½
Ware	1/6	1/1½
Warminster	1/4*	1/-
Warrington	1/7	1/2½
Warwick	1/6½	1/2
Wellingborough	1/6½	1/2
Wells (Norfolk)	1/3	11½
Welwyn	1/6	1/1½
Welwyn Gar. City	1/7	1/2½
West Bromwich	1/7	1/2½
Westcliff-on-Sea	1/6½	1/2
Weston-super-Mare	1/6	1/1½
Weybridge	1/6	1/1½
Weymouth	1/4½*	1/0½
Whitby	1/6	1/1½
Whitstable	1/4½	1/0½
Widnes	1/7	1/2½
Wigan	1/7	1/2½
Wigton	1/5½	1/1½
Willington	1/6½	1/2
Wilmslow	1/7	1/2½
Winchester	1/5	1/0½
Windermere	1/5½	1/1½
Windsor	1/6	1/1½
Wisbech	1/4	1/-
Witham	1/5	1/0½
Woking	1/5½	1/1½
Wokingham	1/5	1/0½
Wolverhampton	1/7	1/2½
Woodbridge	1/4	1/-
Worcester	1/6	1/1½
Workington	1/5½	1/1½
Worksop	1/6	1/1½
Worthing	1/5	1/0½
Wrexham	1/6½	1/2
Wroxham	1/4½	1/-
Wycombe	1/5½	1/1½
Wymondham	1/3½	11½
Yeovil	1/5†	1/0½
York	1/7	1/2½

* Painters 1d. less than other Craftsmen. † Painters ½d. less than other Craftsmen. ‡ Plasterers 1/9.

¶ Tradesmen's Labourers 1/3½. Navvies and General Labourers 1/3.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d per day Tool Money.

For Building Trade wages in Scotland see page 762.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—5 ft. deep	per yard cube	8	0
Add if in clay	" "	1	0
Add for every additional depth of 5 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	3
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundations 1 to 6	per yard cube	24	0
Add if in underpinning in short lengths	" "	5	0
Add if in floors 6 in. thick	" "	2	0
Add if in beams	" "	2	6
Add if aggregate 1 : 2 : 4	" "	8	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	1	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	26	0	0
Add if in stocks	"	6	0	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	5	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	0	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	5	9

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	0	11
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, etc., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	0

MASON.

		s.	d.
York stone templates fixed	per foot cube	12	9
York stone sills fixed	" "	22	6
Bath stone and all labour fixed	" "	10	9
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	16	6
Grey Forest of Dean stone, fixed	per foot cube	15	0
Do. do. templates, fixed	" "	11	6
Do. do. sills, fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	6
Do. 20 in. × 10 in. do. do.	"	75	0
Do. 24 in. × 12 in. do. do.	"	77	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	4	0
Do. joists	" "	4	6
Do. roofs, floors and partitions	" "	5	3
Do. trusses	" "	6	9

		½"	1"	1½"	2"
Deal rough close boarding	per sq.	32/-	38/-	47/-	70/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per foot super	0	8
Centre for arches	" "	1	6
Gutter boards and bearers	" "	1	0

FLOORING.

		½"	1"	1½"	1½"
Deal-edges shot	per sq.	—	41/-	49/-	58/-
Do. tongued and grooved	"	—	46/-	55/-	67/-
Do. matchings	"	42/-	47/6	—	—
Moulded skirtings, including backings and grounds	per foot super	1/4	1/7	1/9	2/3

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	9
Two do. do. do.	" "	2	0
Add for fitting and fixing	" "	0	2
Deal cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double-hung, double hung with pulleys, lines and weights, average size		3	3

DOORS.

		1¼"	1½"	2"
Two-panel square framed	per foot super	2/1	2/3	2/5
Four-panel do.	" "	2/4	2/6	2/9
Two-panel moulded both sides	" "	2/6	2/9	2/11
Four panel do. do.	" "	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	12	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per foot super	1/7	1/8	1/11
Deal shelves and bearers	" "	1/2	1/4	1/7
Add if cross-tongued	" "	2d.	2d.	2d.

STAIRCASES.

	1"	1½"	1¼"	2"	2½"
Deal treads and risers in and including rough brackets	2/-	2/3	2/8	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housing for steps and risers	each	0	11
Deal balusters, 1 in. × 1½ in.	per foot run	0	9
Mahogany handrail, average 3 in. × 3 in.	" "	5	6
Add if ramped	" "	11	0
Add if wreathed	" "	22	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/0
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	10/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	22	0
Plain compound girders	"	25	6
Do. stanchions	"	28	6
In roofwork	"	34	6

RAINWATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/2	1/3	1/9	1/9
Ogee do. do.	"	1/4	1/5	2/0	2/8
Rainwater pipes with ears	"	1/6	2/0	—	—
Extra for shoes and bends	each	3/3	4/6	—	—
Do. stopped ends	"	1/3	1/7	2/0	3/0
Do. nozzles and angles	"	2/7	3/0	4/2	4/8

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	48	0
Do. do. flats	"	47	0
Extra labour and solder in coated cesspools	each	6	0
Welt joint	per foot run	0	4
Soldered seam	" "	1	6
Copper nailing	" "	0	3

		½"	¾"	1"	1½"	1½"	2"	4"
Lead overflow	per ft. run	10½	1/3	1/9	2/1	2/6	3/2	—
" service	"	1/4	1/11	2/7	3/7	4/4	5/9	—
" soil	"	—	—	—	—	—	—	7/9
Bends in lead pipe, each		—	—	—	—	2/-	2/3	5/6
Wiped solder joints	"	2/-	2/6	2/9	3/3	3/6	4/3	6/-
Lead traps and cleaning screws	"	—	—	—	9/-	10/-	13/-	—
Bib cocks and joints	"	6/6	9/6	—	—	—	—	—
Stop cocks and joints	"	11/6	14/6	18/6	—	—	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	0
Do. Do. Sirapite	" "	2	3
Do. Do. Keene's	" "	3	0
Add saw lathing	" "	1	4
Add metal lathing	" "	2	4
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	" "	1	7
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	4	6

GLAZIER.

		s.	d.
24-oz. sheet plain	per foot sup.	0	7
26-oz. Do.	" "	0	8
Obscured sheet	" "	0	10
¼-in. rolled plate	" "	0	9½
¼-in. rough rolled or cast plate	" "	0	10½
¼-in. wired cast plate	" "	1	2

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	7½
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece	2/-	to 4/-

*These prices apply *to new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PRICES CURRENT OF MATERIALS*

Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.

CHANGES OF THE WEEK: Turps drops by 3d. per gallon.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads:

	£ s. d.
Best Stocks	4 15 0
Second Hard Stocks	4 8 0

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
"Phorpres"	*2 6 3	Flettons, B'lln'se	3 4 0
Flettons at King's Cross	*2 6 3	Best blue Pressed Staffs.	8 6 6
Do., grooved for Plaster.	*2 8 3	Do., Bullnose	8 16 6
		Blue Wire Cuts	7 4 0
White Midhurst Facing Bricks (delivered London site)			4 0 0
"Phorpres" Whites (King's Cross)			3 11 3
"Phorpres" Rustic Facings (King's Cross).			*3 6 3

Best Stourbridge Fire Brick:—
2½ in. ..... 7 15 0 3 in. 8 15 0
* Delivered to site in W.C. district, 4/3 extra per 1,000.

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	24 0 0	D'ble Str'tch'rs	32 10 0
		D'ble Headers	29 10 0
		One side and two ends	33 10 0
Headers	23 10 0	Two sides and one end	34 10 0
Quoins, Bull-nose and 4½ in. Flats	30 10 0	Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

CLINKER CONCRETE.

2" per yd. sup.	1 6	3" per yd. sup.	2 0
2½" " "	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½" " "	3 6	4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

	s. d.	
Thames Ballast	7 3	per yd.
Pit Ballast	6 3	" "
Pit Sand	7 9	" "
Washed Sand	8 3	" "
¾ in. Shingle	7 3	" "
¾ in. Broken Brick	11 3	" "
Pan Breeze	8 3	" "

delivered 2 miles radius Paddington.

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable):—

	£ s. d.
4 ton loads and upwards site.....Per ton	1 19 0
1 ton to 4 tons site	2 1 0
Alongside Vauxhall in 80-ton lots	1 15 0
"Ferrocrete" Rapid Hardening Cement:—	
4 ton loads and upwards site	2 5 0
1 ton to 4 tons site	2 7 0
Alongside Vauxhall in 80-ton lots	2 1 0

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

"Aquacrete" Water Repellent "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.

"Colocrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site | 3 6 0

"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable) 1 ton and upwards site | 8 15 0

Super Cement (Waterproof) paper bags free.	3 9 0
Roman Cement	6 15 0
Parian Cement	6 0 0
Keene's Cement, White	6 0 0
" " Pink	5 12 6

Cementone Colours for cement according to tints per cwt. from £2 16 0.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	3 2 0	Sirapite, Coarse	3 10 0
" White	3 10 0	" Finish	3 18 0
Pioneer	3 10 0		
Super Carbo	2 7 6	4-ton loads & over London Area, paper bags free.	
Carbo Setting	2 12 6		
Best Ground Blue Lias Lime	1 17 6	Grey Stone Lime	2 2 0
		Chalk Lime	2 2 0
Granite Chippings	1 12 0	Hair per cwt.	2 2 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carr, paid.

Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube | s. d. 2 10½

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station, per ft. cube | 2 3
Delivered free on rail Nine Elms, S.R. per ft. cube | 3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube | 4 5
Do. do. delivered on road waggons as above stations, per ft. cube | 4 6
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every ft. over 20ft. *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE—
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over F.ft.cb. | s. d. 14 0
Sawn two sides | 22 6

HOPTON-WOOD STONE—
Sawn three or four sides | 27 9

YORK STONE, BLUE.—*Robin Hood Quality.*
Delivered at any Goods Station, London.

6 in. sawn two sides landings to sizes (under 30 ft. super) Per ft. super	5 0
6 in. rubbed two sides, ditto "	5 6
3 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in., ditto "	1 3½

HARD YORK—
Delivered at any Goods Station, London.

Scappled random blocks. Per ft. cube	6 3
6 in. sawn two sides landings to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto. "	6 1½
4 in. sawn two sides slabs (random sizes) "	3 1½
3 in. ditto ditto "	2 5
2 in. self-faced random flags. Per yd. super	7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11.	£28 10	3 × 6.	£23 10
4 × 9.	28 10	3 × 11.	27 10
4 × 8.	25 10	2 × 11.	27 10
4 × 7.	25 10	3 × 9.	24 10
3 × 8.	23 10	2½ × 9.	24 10
3 × 7.	23 10	3 × 4½	23 10
2½ × 7.	23 10	3 × 4.	23 10

PLANED BOARDS.

1 × 11.	£28 10	1 × 9.	£26 10

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	18/-	1¼	30/-
⅞	21/-	1½	37/6
1	23/6		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	24/-
1¼	31/-
1½	38/6

MATCHING (BEST).

Inches.	per sq.
⅝	19/-
¾	21/-
1	27/6

ins. BATTENS. s. d. ¾ × 2 per 100 ft. 2 8
SAWN LATHS. Per bundle | s. d. 2 5

HARD WOOD.

1 INCH AND UP THICK.

	£ s. d.
Average price for prime quality.	
Dry Austrian Wainscot, per ft. cube	0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 13 0
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 6
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 6
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. 4 7 0 to	5 10 0

HUDDERSFIELD
Building Society

Experience has shown that the arrangements made by the Huddersfield to assist occupier borrowers have given the utmost satisfaction, and the service rendered has been greatly appreciated by builders' clients.

Write for information to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2, or to the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST—A HOUSE IS BEST

SLATES.

First quality slates from Penryhn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 5 0	18 by 10	16 10 0
22 by 12	26 5 0	18 by 9	14 17 6
22 by 11	23 12 6	16 by 10	14 7 6
20 by 12	23 2 0	16 by 8	11 6 0
20 by 10	20 15 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	4 2 6
ditto hand-made ditto	4 17 6
Ornamental ditto	5 2 6
Hip and valley tiles (per dozen) Hand-made	0 8 6
Hip and valley tiles (per dozen) Machine-made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	£17 10 0
Plain Compound Girders	20 10 0
" " Stanchions	22 10 0
In Roof Work	27 10 0

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	18 5 0	⅝ in. to ½ in.	16 15 0
⅜ in.	17 5 0	⅝ in. to 2¾ in.	16 5 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in. %	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in. %	Standard Fittings Sizes. ⅛in. to 6in. %	Standard Flanges Sizes. ⅛in. to 6in. %
Gas	63½	51½	57½	70
Water	60½	47½	53½	66½
Steam	57½	45	48½	62½
Galv. gas	53½	41½	47½	62½
Galv. water	48½	36½	42½	58½
Galv. steam	42½	30	38½	55

C.I. HALF-ROUND GUTTERS—London Price ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/8½	1/3½	5½d.
3½ in.	1/11	1/6	6½d.
4 in.	2/-	1/7½	8d.
4½ in.	2/1	1/10	11d.
5 in.	2/3½	2/1	1/-

O.G. GUTTERS.

3 in.	2/-	1/9	8½d.
3½ in.	2/1½	1/9	9½d.
4 in.	2/3½	1/9½	10d.
4½ in.	2/4½	2/1½	11d.
5 in.	2/10½	2/5	1/1

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles, Branches, stock angles.
2 in.	2/7½	1/7½ 2/5
2½ in.	2/8½	1/10 2/10
3 in.	3/5	2/3½ 3/5
3½ in.	3/11½	2/9 3/11
4 in.	4/7	3/3½ 4/10

Less 20 per cent. trade discount.
Tonnage allowance— 4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock,

	Pipe. s. d.	Bends, stock angles, Branches, stock angles. s. d.	s. d.
2 in. per yd. in 6 fts.	3 4	2 3	2 9
2½ in. " "	3 9	2 6	3 6
3 in. " "	4 2	2 10	4 2
3½ in. " "	4 6	3 6	4 9
4 in. " "	5 0	3 10	5 7

L.C.C. COATED DRAIN PIPES.—London Prices ex Stock,

	Pipe. s. d.	Bends, stock angle, Branches, stock angles. s. d.	s. d.
3in. per yd. in. 9ft. lengths	4 9	5 4	8 9
	cwt. qr. lbs.		
4 in. "	1 1 20.	6 3	11 0
5 in. "	1 2 22.	8 4	16 11
6 in. "	2 0 6 .	10 0	12 10 21 3

Gaskin for jointing 45/- per cwt.

IRON— Per ton in London.

	£ s. d.		£ s. d.
Common Bars	11 15 0	to	12 15 0
Staffordshire Crown Bars— Good merchant quality	14 0 0	to	15 10 0
Staffordshire Marked Bars	18 0 0	..	18 10 0
Mild Steel Bars	13 10 0	..	14 10 0
Steel Bars, Ferro-Concrete quality, basis price	15 0 0	..	16 0 0
Hoop iron, basis price	15 0 0	..	16 0 0
" Galvanised	25 0 0	..	27 0 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*Contd.*)

IRON— Per ton in London.

	£ s. d.	£ s. d.
Soft Steel Sheets, Black—		
Ordinary sizes, to 20 g.	16 10 0	17 10 0
" " 24 g.	17 10 0	18 10 0
" " 26 g.	18 10 0	19 10 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	18 10 0	19 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	20 10 0	21 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	20 0 0	22 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	21 0 0	24 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g	22 10 0	25 0 0
Sheets, Galvanised, Flat Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	21 0 0	24 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	22 10 0	25 0 0
Best Soft Steel Sheets, 26 g.	25 0 0	26 0 0
Cut Nails, 3 in. to 6 in.	19 10 0	21 0 0
(Under 3 in. usual trade extras.)		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless copper tubes (basis)	per lb.	1 3
Strong sheet	"	1 3½
Thin	"	1 4½
Copper nails	"	1 3½
Copper wire	"	1 3½

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.
½ in. ¾ in.
32/- 47/- per doz.

CHROMIUM PLATED TOILET SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.
½ in. ¾ in.
42/- 61/6 per doz.

SCREW DOWN STOP COCKS FOR IRON.
½ in. ¾ in. 1 in. 1¼in. 1½in. 2 in.
27/6 42/6 75/- 181/- 264/- 409/- per doz.

SCREW DOWN STOP COCKS WITH TWO UNIONS FOR LEAD.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
46/6 68/6 106/- 205/- 307/- 590/- per doz.

DOUBLE NUT BOILER SCREWS.
½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 10/6 16/- 29/- 39/- 56/- per doz.

HEAVY CROYDON BALL VALVES.
½ in. ¾ in. 1 in. 1¼ in. 1½ in.
36/- 59/6 96/- 205/- 278/- per doz.

CAPS AND SCREWS.
1½ in. 1¾ in. 2 in. 3 in. 3½ in. 4 in.
10/- 12/- 18/6 32/- 44/- 48/- per doz.

BRASS FERRULES OR SLEEVES.
1½ in. 2 in. 3 in. 3½ in. 4 in.
10/- 12/6 22/6 31/- 45/6 per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.
1¼ in. 1½in. 2 in. 3 in.
8 lb. Lead P.. 24/6 32/6 49/- 72/- per doz.
8 lb. Lead S.. 29/6 38/6 59/- 93/- per doz.

SOLDER.—Plumbers' 1/4; Tinmen's, 1/8; Blow-pipe, 1/9 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in pipes	per gallon	0 3 3
" " " in barrels	"	0 3 5
" " " in drums	"	0 3 7
Boiled " " in barrels	"	0 3 8
" " " in drums	"	0 3 10
Turpentine, in barrels	"	0 3 3
" in drums (10 gals.)	"	0 3 5
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		52 0 0
Extra for 1-cwt kegs over 5-cwt. casks is 2/9 cwt.		

GENUINE WHITE LEAD PAINT.
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Pauls," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered 71 0 0
Red Lead, Dry (packages extra) per ton 50 0 0
Best Linseed Oil Putty per cwt. 0 13 0
Size, XD quality fkn. 0 3 6

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	26 5 0
Pipe in coils	25 15 0
Soil pipe	31 0 0
Compo pipe	32 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.
Old lead, ex London area, at Mills per ton £16 0 0

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 14 0
Fine Do.	Do.	0 16 0
Fine Copal	Do.	0 18 0
Pale Copal	Do.	1 0 0
Pale Opal Carriage	Do.	1 4 0
Best Do.	Do.	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	Do.	0 18 0
Fine Copal Cabinet	Do.	1 2 0
Fine Copal Flatting	Do.	1 0 0
Hard Drying Oak	Do.	0 18 0
Fine Hard Drying Oak	Do.	0 19 6
Fine Copal Varnish	Do.	1 0 6
Pale Do.	Do.	1 12 0
Best Do.	Do.	1 2 6
Best Japan Gold Size		1 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY AND SELECTED GLAZING QUALITY.

per ft. super.		per ft. super
18 oz. O.Q.	2½d	32 oz. O.Q. 6d.
18 " S.Q.	2¾d.	32 " S.Q. 6¾d.
24 " O.Q.	3¼d.	Obscured Sheet, 18 oz. 3d.
24 " S.Q.	3¾d.	" " 24 " 4¼d.
26 " O.Q.	3¾d.	Fluted 21 oz. 9d.
26 " S.Q.	4¼d.	Em'lld 18 oz., 5¼d., 24 oz., 6¾d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft. s. d.
Rolled plate, ¼ in.	5¼d.
Rough cast double rolled, ⅛ in.	6¾d.
Rough cast double rolled, ¼ in.	6¾d.
Figured rolled, etc., white	6¾d.
Figured rolled, etc., tinted	9¾d.
Rolled Sheet	6d.
White rolled cathedral	6d.
Tinted rolled cathedral	8½d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
"Calorex" Sheet, 21 oz.	2 6
" " 32 oz.	4 0
" Cast, ¼ in. thick	0 10
" " ⅞ in. thick	1 0
" " ½ in. thick	1 2

"VITA" GLASS.

Clearsheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate not exceeding 1 foot	1 6
Do. do. 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	2 6

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from February 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/7½	1/7	1/6½	1/6	1/5½	1/5
Labourers	1/2¾	1/2¼	1/2	1/1½	1/1	1/0½

Aberdeen	A	East Fife (embraced by a line from Largs to Kingsbarns and eastward to the Coast)	B
Ayrshire	A	Edinburgh	A
Banff	B	Fifeshire (with the exceptions of towns in East Fife which are under Grade B)	A
Berwickshire	A²	Forfarshire	A
Bridge of Allan	A	Glasgow	A
Broughty Ferry	A	Greenock	A
Clackmannanshire	A	Hamilton	A
Doune	A	Inverness	*
Dunblane	A	Inverurie	A¹
Dumbartonshire	A	Kincardineshire	A²
Dumfriesshire	A	Kinross-shire	A
Dundee	A	Lanarkshire	A
Dunoon	A	Mid-Lothian	A
		Monifieth	A
		Moray and Nairn	B
		Newport	A
		Peeblesshire	A²
		Perth	A
		Perthshire	A
		Peterhead	A
		Renfrewshire	A
		Rothesay	A
		Roxburghshire	A²
		St. Andrews	A
		Selkirkshire	A²
		Stewartry	A²
		Stirlingshire	A
		Stornoway	A²
		Tayport	A
		West Lothian	A

*This town has its own rates: Masons, 1/6; Carpenters, 1/6; Slaters, 1/6; Plumbers, 1/6; Plasterers, 1/6; Painters, 1/5; and Labourers, 10d. to 1/-.

The information given in this table is copyright. The rates of wages in England and Wales are given on page 759.

THE SCOTTISH BUILDER

NEW BUILDINGS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

ABERDEEN. — ADDITIONS.—The T.C. have agreed to carry out alterations and additions at the nurses' home at the Kingseat Mental Hospital. The plans are by Mr. A. B. Gardner, City Architect, 11, Broad-street.

ABERDEENSHIRE.—SCHOOLS.—The Scottish Department of Education has approved of the plans for the erection by the C.C. of new schools at New Byth and Bankhead.

AYR. — HOUSES. — The T.C. is to proceed with 152 houses at Dalmilling, Whitletts. Plans are by Mr. William Cowie, architect, Ayr.

BARRHEAD.—FACTORY.—Plans have been prepared by Messrs. The Yorkshire Copper Co., of Leeds, own architects for a new factory in Paisley-road.

BERWICK. — HOSPITAL.—Plans are to be prepared for a new County Hospital and nurses' home. The architect is Mr. James Miller, 15, Blythswood-square, Glasgow.

BLAIR-ATHOL.—HOTEL.—Plans are to be prepared by Mr. Thomas Beveridge, architect, 248, West George-street, Glasgow, for a new hotel.

CLYDEBANK.—EXTENSIONS.—The Singer's Sewing Machine Co., Ltd., 329, Sauchiehall-street, Glasgow, are to carry out, from plans by their own architects, an extension estimated at £100,000 to the works in Kilbowie-road.

CLYDEBANK.—HOUSES.—The T.C. is to proceed with 560 houses at Mount Blow.

DUMFRIES.—PAVILION.—The County E.C. has recommended the erection, from plans by the County Architect, Dumfries, a pavilion for the Academy, at £3,000, at Marchmount.

DUNFERMLINE.—HOUSES.—The T.C. has received the lay-out plans for 130 houses at King's-road, Rosyth.

DUNDEE.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer: Arbroath-road, pavilion for the T.C.; Hilltown and Victoria-road, alterations for Bernstein and Gerber; Kerrington-crescent, bungalows for D. and W. Thomson, architect, T. L. Gray, 7, Ward-road; Lyndhurst-place, bungalows for David Beat and Son; Old Craigie-road, bungalows for Moxham and Partners, architects, Gordon and Scrymgeour, 7, Ward-road; Park-road, bungalows for James Miller and Partners, Ltd.; School-road, villas for Frank Livingstone, architect, W. M. Patrick, 26, Yeaman-shore; and Shore-terrace, alterations for the T.C.

EAGLESHAM. — HOUSES.—Plans are to be prepared by Mr. John Coutts, 8, Hunter-street, Paisley, for 90 houses.

EAST LOTHIAN.—HOUSES.—The C.C. have decided to proceed with the following building programme: Western District three blocks of four houses at Preston Pans; 20 houses at Preston-cross, Preston Pans; 10 at New Winton; eight at Macmerry; Eastern district, eight at Innerwick; six at Stenton; four at Garvald; four at Athel-Staneford and two at Drem. The plans are being prepared by the County Architect, Haddington.

EDINBURGH.—HALLS.—A scheme for the erection of halls and offices at the Mount Vernon-road, Liberton, has been prepared. The builder is Mr. James B. Alexander, Liberton Dams, Edinburgh.

EDINBURGH. — HOUSES.—The Corporation have a scheme for houses to be erected on sites at West Pilton, from plans prepared by Mr. E. J. MacRae, City Architect, at £1,000,000.

FORT WILLIAM. — ADDITIONS.—The Dean of Guild Court has passed plans for a five-story addition to the Palace Hotel, at £10,000.

GLASGOW. — PREMISES.—Plans are to be prepared for a new building at the Candleriggs and Ingram-street, for the Commercial Bank of Scotland, Ltd., George-street. The architects are Messrs. James McCallum and Gordon, 14, George-street. Plans by Mr. R. I. Pierce, architect, Hudson-road, Mills, Leeds, for new premises for Messrs. Burton in Union-street.

GLASGOW. — SCHOOLS.—The Corporation have decided to erect two temporary schools at Cardonald and Hillington at £6,000.

GRANGEMOUTH. — PREMISES. — A new road-house is to be erected for Mr. W. D. Boyle, in Newlands-road. The plans are being prepared by Messrs. Wilson and Tait, Station-road.

HAMILTON.—TILE WORKS.—The T.C. received an inquiry from Messrs. John and R. D. Finlay, Clyde Brickworks, Hamilton, as to whether they would be prepared to let sufficient ground at the old Whistleberry Colliery for the purpose of erecting a tile works, and the council agreed that the convener of the Finance Committee and the Town Clerk should enter into negotiations with the firm.

HAMILTON. — HOUSES.—The T.C. is to borrow £510,610 for 806 houses at Whitehill, 48 at Burnside-lane, 46 at Ramsay's-buildings, 12 at Dixon-street, and six at Almada-street.

HILLINGTON. — HALLS.—Plans are to be prepared by Mr. T. Somers, architect, George-street, Glasgow, for new halls, etc.

INVERNESS. — CONVERSION.—The Dean of Guild Court has passed plans presented by Mr. L. Sorrell, of Rainings House, for alterations to convert buildings in Hill-place into a theatre.

INVERNESS.—HOUSES.—The Corporation is to build, from plans by Mr. A. F. McKenzie, architect and surveyor, 28 houses, etc., in the High-street.

KIRKINTILLOCH. — EXTENSIONS. — Plans have been prepared and approved for extensions to the works of the Forth and Clyde Steel Foundry (1932) Co., Ltd.

LARGS.—ADDITIONS.—Plans have been prepared for reconstruction and additions at £10,000 to a boarding-house The architects are Messrs. Fryer and Penman, Clyde View.

MOTHERWELL. — SHELTER.—Plans to be prepared for temporary shelter at £1,100 for the County Hospital. Mr John Stewart, Albert-street, Motherwell, is the architect, and Messrs. Fred Smith and Brown, 4, Regent-street, Hamilton, are the measurers.

SCOTSTOUN. — CENTRE.—Plans are to be prepared for a new centre, to cost about £3,500, in the Kingsway and Dame-drive. Mr. Thomas Somers, City Engineer, George-square, Glasgow, has prepared the plans.

PUBLIC WORKS

GREAT BRITAIN.—Following are notes on some loans sanctioned by the Minister of Health during the week ended October 9: Bradford C.C.—£20,338 for the extension and modernisation of the Lister Park open-air baths; Congleton T.C.—£12,950 for the extension of Congleton Council School, No. 8; Derbyshire C.C.—£10,348 for a junior department at Swadlincote Public Elementary School; Hazel Grove and Bramhall U.D.C.—£33,596 for the reconstruction of sewers in the Hazel Grove area; Kingston-upon-Hull C.C.—£30.000 for the reconstruction of Craven-street, New Bridge-road, Holderness-road and Spring Bank; Lytham St. Annes T.C.—£19.000 for provision of refuse disposal plant; Salford C.C.—£18,212 for purchase of 24½ acres of land for the Salford Grammar School; Southport C.B.C.—£16,731 for extension of the Farnborough-road junior council school; Spalding U.D.C.—£22,234 for extension of the market; Wanstead and Woodford U.D.C.—£45.603 for extension of the Eastern sewage disposal works.

GREAT BRITAIN. — Among contracts advertised in this issue by local authorities as being open to tender are: Leeds T.C.—Extensions to Meanwood Park Colony; Breconshire C.C.—Extensions to Sennybridge Senior School; Weymouth and Melcombe Regis T.C.—88 houses and block of 8 flats; Hay R.D.C.—28 houses; Gosport T.C.—School at Privett-road; Manchester T.C.—244 flats at Bennett-street, Ardwick, 221 flats, 12 shops, etc., at Gorton-lane, West Gorton, and 49 flats at Red-bank, Cheetham; Bristol T.C.—School at Whitchurch.

TUNBRIDGE WELLS.—A contract for the erection of the first part of the new civic centre for the T.C. has been placed with Messrs. R. Corben and Sons, of Maidstone, who tendered at £86,480. Mr. Percy Thomas, P-P.R.I.B.A., 10, Cathedral-road, Cardiff, is the architect.

TENDERS

TOO LATE FOR CLASSIFICATION

Abram.—Canteen at Abram Collieries, for Messrs. Bickershaw Collieries Ltd Mr. C. Batton, L.R.I.B.A., architect, Bank-chambers, King-street, Farnworth, near Bolton:—
*G & R. Shaw & Co., Hanover-street, Leigh.

Belfast.—Grocery store, for Messrs. Stewart's Cash Stores, Ltd.:—
*Thos. M'Kee & Sons, Belfast.
Shopfitting—*John Andrews & Sons, Belfast.

Chelsea.—Repair of the asphalte flats and gutters of the Town Hall roof, for the B.C.:—
*Neuchatel Asphalte Co., Ltd. ... £259 5 4
Frazzi, Ltd. ... 249 15 10

Chester-le-Street.—Additions to the council school, for the Durham C.C. Mr. F. Willey, F.R.I.B.A., architect, 34, Old Elvet:—
*R. C. Williamson, Rowlands Gill.

Gateshead.—Factory on the Team Valley estate, for Messrs. Hugh Wood & Co., Ltd. Messrs. L. J. Couves & Partners, architects, Carliol House, Newcastle-on-Tyne:—
*Stephen Easten, Ltd., Milburn House, Newcastle-on-Tyne.

Hounslow.—Demolition work at the "George IV" public-house, for Messrs. Simmons Bros., Putney Heath, S.W.15:—
*London Demolition Co., Ltd., London-road, Isleworth.

Kidderminster.—Offices at Cookley, for the Steel Stampings Co., engineers, Cookley. Messrs. Pritchard, Godwin & Clist, F.R.I.B.A., architects, Bank-buildings:—
*G. W. Godwin, 9, Grosvenor-avenue, Kidderminster.

Lemington.—Additions to the secondary school, for the Northumberland C.C. Mr. W. W. Tasker, architect, County Hall, Newcastle-on-Tyne:—
*J. Murray, Heddon-on-the-Wall.

Market Drayton.—Hotel at Tern Hill, for Messrs. Wilson's Brewery Co., Ltd., Monsall-road Brewery, Newton Heath, Manchester. Messrs. E. Forshaw & Greaves, architects, Trinity-chammers, Hanley, Stoke-on-Trent:—
*J. A. Harvey, Smithfield-road, Market Drayton.

Newcastle-on-Tyne.—Extensive alterations to the "Golden Fleece" Hotel, Clayton-street, for Messrs. Truman, Hanbury & Buxton. Messrs. Watkin & Maddox, architects, National Provincial Bank-chambers, Burslem:—
*W. Hall (Contractors), Ltd., Derwentwater-road, Gateshead.

Sunderland.—Warehouse and showrooms in Northumberland-street, for Messrs. W. H. Smith and Son. Messrs. Hetherington & Wilson, architects, County-chambers, Newcastle:—
*W. Jameson & Co., 44, Duke-street, Darlington.

Wimbledon.—Sub-station on the land at the rear of Clarence-avenue, New Malden, for the C.B.:—
*F. H. Doel, Merton ... £870

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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Aldridge.—10 bungalows at Pelsall and 10 at Rushall, for the U.D.C. Mr. H. S. Onions, surveyor, Daw End, Rushall:—
*H. Saunders, Dartmouth-avenue, Walsall ... £4,700

Armagh.—Additions at Portadown Technical School, for the E.C.:—
*R. Heathwood, Portadown ... £7,395

Ashton-under-Lyne.—Eight police houses, for the T.C. Mr. N. Wilson, Borough Surveyor:—
*E. Marshall & Sons, Ltd., Stamford Saw Mills, Cockbrook, Ashton-under-Lyne ... £3,622

Atherton.—Hotel in Flapper-lane, for Messrs. George Shaw & Co., Ltd., Leigh Brewery, Leigh. Mr. E. Frankland, resident architect, Brewery Offices:—
*T. Collier & Sons, Ltd., Brown-street Works, Leigh ... £12,000

Bacup.—House, offices and public conveniences at the cemetery, for the T.C. Mr. H. Gaffogg, M.I.M. and Cy.E., Borough Engineer and Surveyor:—
*Works Department, Bacup Corporation ... £1,231 3 7

Bakewell.—Seven houses in Litton, for the R.D.C. Mr. R. Hayhurst, surveyor, 3, Baslow-road:—
M. Robinson & Sons, Cressbrook, near Buxton ... £3,023 16 4
J. Groves & Sons, Ltd., Stoney Middleton, near Sheffield ... 2,960 10 0
*J. Clark & Co., Bakewell ... 2,713 6 6
(Subject to M.H. approval.)

Barnes.—Erection of the Boileau-road electricity sub-station, for the T.C.:—
*H. & G. Jackson, Ltd. ... £825

Basford.—Houses, for the R.D.C.:—
†J. Shaw & Co., Kimberley—
24, and street at Awsworth ... £9,643
62, and road at Kimberley ... 23,536

Belford.—Houses, for the R.D.C.:—
*R. Carse & Co., High-street, Amble £3,342 0
Electric installations—
*G. Doyle, Newcastle ... 110 16

Bolton.—34 additional houses on the Willows-lane estate, for the T.C. Mr. V. M. Hughes, Housing Director, Westminster Bank-chambers, Old Hall-street North:—
*Direct Labour Department ... £15,209

Brighton.—Foundations for the switch-house building, for the T.C. Engineer and Manager, Electric House, Castle-square. Consulting engineers, Messrs. Merz & McLellan, 32, Victoria-street, Westminster, S.W.1:—
*Thos. Lowe & Son, Ltd., Broadway-chambers, Hammersmith, W.6 ... £4,165

Calne.—Eight three-bedroomed non-parlour type houses, for the T.C.:—
*C. Syms & Sons, Calne ... £2,696

Cannock.—Meter-testing department at the rear of the electricity showrooms in Wolverhampton-road, for the U.D.C. Mr. S. Harrison, architect:—
R. Edmunds, Cheslyn Hay ... £1,684
F. & E. V. Linford, Ltd., Cannock ... 1,299
C. F. Mason, Hednesford ... 1,275

Chesterfield.—(*a*) Two additional homesteads, (*b*) outbuildings, at Oxcroft Farm estate, for the Derbyshire Agricultural Committee:—
(*a*) *William Drabble & Sons, Mosbrough, near Ecclesfield, Sheffield £816 10
(*b*) *T. N. Scotney, Oxcroft, near Chesterfield ... 312 0

Chesterfield.—Adaptation and equipment of Bramling House for delicate and physically defective children, for the E.C. Messrs. Wilcockson & Cutts, architects, Saltergate:—
*W. Marriott, 104, Storforth-lane, Chesterfield ... £10,115

Dorking.—For work in connection with Westcott sewerage scheme, for the U.D.C.:—
G. S. Faulkner & Co., Reigate ... £20,200

East Ham.—Works, for the new offices and clinic accommodation in Barking-road, for the B.C.:—
Supply of metal windows—
*H. Hope & Sons, Ltd., Smethwick ... £1,636 13 0
Fire-resisting floors, roofs and staircases—
*Caxton Flooring, Ltd. ... 2,637 6 10
Artificial stonework—
*Girlings' Ferro-Concrete Co., Ltd. 3,401 19 0

Eccles.—Two parlour type firemen's houses in Woodfield-grove, for the T.C.:—
*Works Department £1,010

Glasgow.—Works, for the Corporation. Mr. Thomas Somers, City Engineer:—
New information bureau at St. Enoch's-square—
*William Anderson, Glasgow £2,104 5 1
Spray baths at police recruits' training centre—
Plumber work and fittings, etc.—
*John Paterson (Plumbers), Ltd., Glasgow £314 0 0
Tile and allied works—
*Craven, Dunhill & Co. 283 2 0
Chimney stalk, Pollocks library—
*James G. Dewar, Glasgow £198 18 6
Foundations for transport works—
*William Baird & Co., Glasgow ... £1,213 13 4

Glasgow.—Heating and engineering installation for the new Carnwadrie public school. Mr. William McCaig, architect, 129, Bath-street:—
*J. Coombe & Sons, Ltd., Glasgow £4,462 6 1

Glendale.—18 houses at Wooler, for the R.D.C.:—
*R. Carse & Son, Amble.

Greenock.—Business premises and offices at The Vennel and Charles-street. Mr. Alexander McGregor, architect, Cathcart-square. Mr. A. McDonald, measurer, Cooper's-buildings:—
Excavation, brick and mason—*J. and R. Kirk, Ltd.
Joinery, carpentry and ironmongery—*J. Preston & Son.
Slater work and roughcasting—*D. Phillips,
Plaster work and lathing, etc.—*A. Murray.
Plumber and sanitary—*Clark & Selkirk.
Electrical fittings and installation—*Hurry Brothers.
(All of Greenock.)

Guildford.—Houses, for the R.D.C.:—
12 houses in Wharf-lane, Send—
*A. Grove, Guildford £5,832 0
6 houses in Clasford, Worplesdon—
*A. Grove, Guildford 2,969 0
16 houses in Chinthurst-lane, Shalford—
*W. J. Holt, Godalming 7,059 5
8 houses in Long Reach, West Horsley—
*G. Holt & Son, Ripley 3,803 0

Havant and Waterloo.—Concreting of the watercourse in Bridge-road, Emsworth, for the U.D.C.:—
*J. Croad, Ltd., Portsmouth £535
(In lieu of tender withdrawn.)

Hebburn-on-Tyne.—32 flats in Collingwood-street and Redhouse-lane:—
*R. Summerbell & Sons, Rutland-street, South Shields.

Hemsworth.—27 houses in Thorpe Audlin, for the R.D.C. Mr. W. T. Lynam, A.M.I.C.E., engineer and surveyor:—
†R. K. Poskitt, Beal, near Goole.

Hemsworth.—90 houses at Kinsley, for the U.D.C.:—
*W. Hanley & Sons, Hemsworth £42,780

Hendon.—Works, for the T.C.:—
Electrical installation for the Mill Hill clinic—
*F. J. Learmouth £128 12
(In lieu of tender withdrawn.)
Electrical installation at the Edgware junior and infants' school—
*H. E. Keen & Co., Ltd. £418 10
Hoiders Hill-road improvement—
*Howard Farrow, Ltd. £31,446 15 2
Works for the Edgware junior and infants' school—
Heating—
*Z. D. Berry & Sons, Ltd. £1,230
Hollow tile flooring—
*Helical Bar Engineering Co. £716 2
Steel trusses—
*T. C. Jones & Co. £230
(Both in lieu of previous tenders.)
Fencing required on the boundary of Sunny Hill Fields adjacent to the Great North Way—
*Thos. Bowen, Ltd. £240 14 7

Horsham.—73 houses and eight bungalows on the Brighton-road estate, for the U.D.C. Mr. C. G. Atkinson, F.S.I., M.Inst.M. and Cy.E., engineer and surveyor:—
Bartley & Ward, Ltd., Crawley ... £43,960 0
Murrell Bros., Horsham 43,016 17
Hood & Taylor, Ltd., Horsham ... 41,002 0
Willmore Phillips Estates Co., Worthing 38,368 0
J. W. Jones, Weybridge 35,871 0
G. Evans, Eastbourne 34,323 0
St. George's Building Works, Ltd., Erith 33,500 0
A. R. Dairy (Contractors), Ltd., Bognor 31,746 0

Hull.—230 houses on the Bilton Grange estate, for the T.C.:—
*Tarran Industries, Ltd. £77,277

Inveraray.—12 houses, for the T.C. Mr. C. C. MacArthur, surveyor, Lochgilphead:—
Mason—*J. Brown, Glasgow.
Joiner—*I. MacCallum, Greenock.
Plumber—*Wm. Cuthbert, Greenock.
Slater—*A. Dunn, Uddingston.
Plasterer—*Williamson Bros., Kirkintilloch.
Painter—*T. McFarlane, Bellshill.

Islington.—Conversion of the disused office accommodation at Eden-grove for electrical purposes, for the B.C.:—
Castle Bros., Ltd. £4,516
J. A. Dumayne & Co., Ltd. 4,004
J. C. Mather & Son 3,871
W. M. Brand 3,834
*C. & F. Bryen, 48, Crouch End Broadway, N.8 3,370
(Remainder of London.)

Kearsley.—36 houses, and construction of roads, footpaths and sewers on the Hulme-road (Stoneclough) site, for the U.D.C. Mr. J. F. Moyse, surveyor:—
*E. Tonge & Sons, Ltd., Station-road, Swinton, Manchester.

Kidderminster.—Houses, for the R.D.C.:—
*William Hunt & Son, Bewdley—
18, at Cookley £7,700
10, at Chaddesley Corbett 4,200

Kilrush.—Houses, for the U.D.C.:—
12—*Clancy & Kelleher £3,972 0
12—*S. Cusick 4,050 0
8—*P. M'Mahon 2,887 0
2—*P. M'Mahon 697 10

Leeds.—1,750 houses on the Halton Moor estate and Parklands, Seacroft estate, for the T.C. Mr. R. H. A. Livett, A.R.I.B.A., Housing Director, 26, Great George-street:—
500 houses—*Sims, Sons & Co., Ltd., Haydn-road, Sherwood, Nottingham.
500 houses—*N. P. Bell, Ltd., Round Hay, Leeds.
500 houses—*Woolley Construction Co., Trentham Works, Dewsbury-road, Huntslet, Leeds.
250 houses—R. M. Thompson, Ltd., Sherburn-in-Elmet, South Milford, near Leeds.

Liverpool.—Works, for the Corporation:—
136 houses, 10 maisonettes and 112 flats at Woolfall Heath estate (portion No. 1)—
*Direct Labour £94,000
Interior painting of City Laboratories, Mount Pleasant—
*J. J. Lowe & Son, Ltd. £272
Improved accommodation for resident medical officers at Alder Hey Hospital—
*Knight & Lord £3,677
Additional storey to the electric sub-station in Breckfield-road North—
*Knight & Lord £468
2,000 houses, maisonettes and flats on the Woolfall Heath estate—
*The Unit Construction Co., Ltd. ... £791,230
Demolition and temporary partial reinstatement of the front projection of car shed "D" of the Litherland tramway depot—
*C. & G. L. Desoer, Ltd. £329
(All of Liverpool.)

London.—Rebuilding work at 110, Houndsditch, for the City Corporation:—
William Shurmer & Sons, Ltd. ... £2,850 0 0
Ashby & Horner, Ltd. 2,760 0 0
Trollope & Colls, Ltd. 2,713 0 0
Hall, Beddall & Co., Ltd. 2,394 0 0
James Jennings & Son 2,284 0 0
*F. J. Howard 2,273 2 2

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London.—Works, for the M.W.B.:—
Internal renovations at 1 and 2 cottages, and "Water House," Birch Green, Staines—
J. Singleton & Sons £265 0
E. Weaver & Sons 167 10
Walter G. Holloway & Son, Ltd. ... 164 0
E. Potterton, Ltd. 160 7
*A. C. Rowe 154 9
Repairs, etc., at 1 and 2 cottages, Hall-lane, Chingford—
James Stewart & Sons (Tottenham), Ltd. £198 0
R. S. Bradford & Sons 181 10
W. Loweth & Sons, Ltd. 179 0
*A. E. Wright, Ltd. 173 0
External renovations at 1-3 cottages and superintendent's house, Brixton works—
E. Satterthwaite £158 0
Rogers & Rogers 133 3
W. J. Dixon & Sons, Ltd. 117 0
*H. Bragg & Sons, Ltd. 112 0
Supply of steel pipes for section No. 1 of the Hampton to Honor Oak water scheme—
The South Durham Steel & Iron Co., Ltd. £43,223 6 10
Stewarts & Lloyds, Ltd. 42,101 14 7

¶**London.**—List of new contracts placed by H.M. Air Ministry for the week ended October 16:—
Aldergrove, Co. Antrim—additions to concrete aprons and construction of taxi track—Raynor Bros., Hucknall.
Drummore—building work—W. & J. R. Watson, Ltd., Leigh, Glasgow, 6.
Kenley—drainage—Bradshaw Bros. (Contractors), Ltd., Leicester.
Worthy Down—fencing—William Bain & Co., Ltd., London, E.C.4.
Felixstowe — re-roofing of shed — Wolverhampton Corrugated Iron, Ellesmere Port, Wirral.
Marlesham Heath—various buildings and external services—M. & F. O. Foster & Co., Ltd., Hitchin.

¶**London.**—Tenders accepted by H.M. Civil Engineer-in-Chief's Department, Admiralty:—
Chatham—supply and erection of timber buildings—Browne & Lilly, Ltd., Thames Side, Reading.
Milford Haven—construction and erection of various buildings—The Demolition and Construction Co., Ltd., 74, Victoria-street, S.W.1.

¶**London.**—Tenders accepted by H.M.O.W. for the week ended October 14:—
Blue drill overalls—Workwear, Ltd., Mount Vernon, Liverpool, 7.
Asbestos blankets—Bell's Asbestos & Engineering Supplies, Ltd., Bestobell-works, Slough.
43, Bartholomew-close, E.C.—alterations for Post Office engineers' department—Killby & Gayford, 87, Worship-street, E.C.2.
Airmen's boxes—Hampton Timber Co., Ltd., Hampton.
Electric light shades—Hailwood & Ackroyd, Ltd., 71-75, New Oxford-street, W.C.1.
Easingwold (Yorks) Anti-gas School—sewage outfall works—William Birch & Sons, Ltd., Spen-lane, York.
Bishopton Royal Ordnance Factory—railway work, formation of roads, drainage, provision of fencing, etc.—George Wimpey & Co., Ltd., The Grove, Hammersmith, W.6.
Northwich Telephone Repeater Station—erection—Wm. E. Jones, Lewin-street, Middlewich.
Chairs—W.8—Owen Haines & Son, Green-street Chair-works, High Wycombe.
Motor-driven pumping units on 2-wheeled trailers—Coventry Climax Engines, Ltd., Friars-road, Coventry.
Heavy-duty engine-driven pumping units—Sulzer Bros. (London), Ltd., 31, Bedford-square, W.C.1. and Tangyes, Ltd., Cornwall-works, Birmingham.
Eversley (Hants) Telephone Exchange—erection—McCarthy E. Fitt, Trinity-place, Oxford-road, Reading.
Admiralty Training Establishment, Rosyth—benches, etc. — Allday & Onions, Ltd., Gt. Western-works, Small Heath, Birmingham.
Kew Gardens—rebuilding boundary wall, etc.—F. D. Hidden & Co., Ltd., 103, Boston Manor-road, Brentford.
Birling Gap Coastguard Station—reslating roofs and internal decorations—Mark Hookham, Ltd., Springfield-road, Seaside, Eastbourne.
Brixton Sub-district Post Office—alterations and additions—F. J. Moreton & Son, Ltd., 171, Gipsy-road, S.E.17.
Welsh Board of Health, Cardiff—delivery and fixing of balustrading to staircases—J. R. Pearson (Birmingham), Ltd., Porchester-street, Birmingham, 19.
Ministry of Labour Claims and Record Office, Kew—alterations to boiler-house—Limpus & Son, Ltd., 7, Kingston Hill, Kingston-on-Thames.
Neasden Branch Post Office—alterations, etc.—Limpus & Son, Ltd., 7, Kingston-hill, Kingston-on-Thames.

¶**London.**—The following works contracts have been placed by the War Office during the week ended October 14:—
Woolwich, Royal Arsenal—construction of buildings—J. W. Falkner & Sons, Ltd., London, S.E.
Imber—erection of civilian quarters—Plummer & Hockey, Radstock.
Warley—clothing store sheds—R. Costain, Ltd., London, W.C.
Pitsea—clothing store sheds—J. B. Edwards & Co. (Whyteleafe), Ltd., London, W.
Buntingford—clothing store sheds—Universal Housing Co., Ltd., Rickmansworth.
Portsmouth, Fort Smithwick—construction of buildings—J. Drewitt, Bournemouth.
Pembroke Dock—erection of garage—S. G. Thomas, Pembroke.

Mablethorpe and Sutton.—Culverting of the Mablethorpe Basin, for the U.D.C. Mr. A. E. Baker, Council Offices :—

*Wm. Birch & Sons, Ltd., Spen-lane, York £7,000

Middlesbrough.—Works, for the T.C. :—

Chief officer's house and 26 firemen's dwellings—
Geo. Fordy & Son, Stockton-on-Tees £15,800 0
John McCreton, Ltd., Middlesbrough 14,800 0
Stephen Coats, Ltd., Middlesbrough ..... 12,320 0(*a*)
‡Lawrence Brown & Son, Stockton-on-Tees 11,374 10
(*a*) To be considered jointly with tender for fire station.

Hollow tile floors and roofs for fire station—
Diespeker Co., Ltd., London £1,515
Frazzi, Ltd., London 1,485 0
The Kleine Co., Ltd., London 1,420 13
Bradford & Co., Ltd., London 1,367 9
Concrete, Ltd., Leeds ..... 1,330 0(*b*)
Bolton & Hayes, Ltd., Bolton 1,259 14
*Helical Bar & Engineering Co., Ltd., London 1,253 0
Attoc Blocks, Ltd., London 1,216 14
Girling's Ferro-Concrete Co., Ltd., Rothwell, Leeds 1,215 0
Windsor Floors, Ltd., Mitcham ... 1,177 0
(*b*) Less 2½ per cent.

Midleton.—16 houses at Rosary-place, for the P.C. :—

*John McCarthy & Sons, Drimoleague £5,580 6 6

Mountrath.—Six houses at Stradbally, for the U.D.C. :—

*T. Carnury, Mountrath £1,620

Mullingar.—20 cottages, for the Westmeath Board of Health :—

*Ennis Bros., Mullingar £5,500

Newcastle-on-Tyne.—New stores buildings at Walkergate Hospital, for the City Council. Mr. R. G. Roberts, City Architect, 18, Cloth Market :—

*Kirk & Dickinson, New Bridge-street, Newcastle.

North Cotswold.—Two houses at Broadwell, for the R.D.C. Mr. J. E. Busfield, architect and surveyor :—

*C. Locke & Sons, Bidford-on-Avon £760

Overton.—78 houses, for the Lanarkshire C.C. Mr. Peter C. Smith, Lanarkshire County Housing Architect, Hamilton :—

Excavation, brick and mason—
*E. Morgan & Co., Ltd., Hamilton £16,302 14 5
Joinery, carpentry and ironmongery—
*D. and W. Nimmo, Wishaw ... 11,310 14 3
Plumber work and sanitary engineering, etc.—
*T. Coats, Motherwell 4,560 3 1
Slater work, roughcasting, etc.—
*Wilson & Hendry, Hamilton ... 3,493 10 3
Plaster work and lathing, etc.—
*W. Black & Co., Wishaw 1,510 0 4
Painter and glazing work, etc.—
*J. & D. Bryden, Strathavon ... 866 4 6
Electrical fittings and installation—
*D. Henderson, Glasgow 548 0 10
Iron fencing, etc.—
*A. & J. Main & Co., Ltd., Glasgow 410 1 6

Prudhoe-on-Tyne.—14 houses. Messrs. W. Dixon & Sons, architects, Collingwood-street, Newcastle :—

*H. Kindred, Sunniside, Whickham.

Rothbury.—30 houses, for the R.D.C. :—

*Wilfred Underwood, Rothbury... £11,968 0 0
Sewers, etc.—
*Thos. Muckle, Rothbury 1,915 5 9

Saffron Walden.—Houses, for the R.D.C. :—

Ashdon, 4—
*F. Faircloth, Saffron Walden ... £1,770 0 0
Chrishall, 2—
*F. W. Cranwell, Chrishall 856 0 0
Debden, 8—
*F. Faircloth 3,283 0 0
Elmdon, 4—
*F. W. Cranwell 1,919 12 8
Hadstock, 4—
*F. Faircloth 1,710 0 0
Newport, 4—
*F. Faircloth 1,820 0 0
Radwinter, 6—
*F. Faircloth 2,570 0 0
Great and Little Sampford, 14—
*I. S. Moss, London 7,220 0 0
Great Chesterford, 30—
*F. Faircloth 12,733 4 0

St. Albans.—12 houses at Pimlico, St. Michael Rural, for the R.D.C. :—

*Axtell & Harborough £4,972 4

St. Pancras.—139 tenements on a site in Queen's-crescent, Kentish Town, for the B.C. Mr. Albert J. Thomas, F.R.I.B.A., architect :—

S. E. Moss & Sons, Chelmsford	£113,000	0	0
	260	6	0 (*a*)
W. J. Simms, Sons & Cooke, Ltd., Nottingham	111,597	0	0
	512	0	0 (*a*)
H. J. Gower & Co.	110,233	0	0
	506	0	0 (*a*)
Speirs, Ltd	109,972	0	0
	416	0	0 (*a*)
R. J. Rowley, Ltd.	109,420	0	0
	400	0	0 (*a*)
R. Mansell, Ltd., Croydon	109,363	0	0
	433	0	0 (*a*)
C. Miskin & Sons, Ltd., St. Albans	109,240	0	0
	469	1	4 (*a*)
A. T. Rowley (London), Ltd.	106,862	0	0
	428	0	0 (*a*)
Haymills (Contractors), Ltd.	105,748	0	0
	373	0	0 (*a*)
A. P. C. Wray, Ltd., Hertford	105,618	0	0
	332	9	7 (*a*)
Thomas & Edge, Ltd.	105,596	0	0
	200	0	0 (*a*)
Hansard, Ltd.	104,168	0	0
	280	0	0 (*a*)
Unit Construction Co., Ltd.	103,876	0	0
	190	0	0 (*a*)
W. Marshall, Ltd., 71, Buckhurst Hill	103,228	0	0
	415	0	0 (*a*)
Gee, Walker & Slater, Ltd.	103,000	0	0
	250	0	0 (*a*)
Taylor Woodrow Construction, Ltd., Southall	102,256	0	0
	200	0	0 (*a*)
M. J. Gleeson, Ltd., North Cheam	101,443	0	0
	232	11	1 (*a*)
Kirk & Kirk, Ltd.	101,425	0	0
	382	0	0 (*a*)
Kent & Sussex Building Co., Ltd., Erith	100,985	0	0
	368	0	0 (*a*)
‡Parker Construction Co., Ltd., Shell Mex House, Strand, W.C.2	100,911	0	0
	720	0	0 (*a*)
Tarran Industries, Ltd.	100,100	0	0
	162	0	0 (*a*)

(*a*) Reduction if "Metco" or other equal approved doors are substituted for deal doors.
(Remainder of London.)

St. Marylebone.—Extension of town hall in Marylebone,, N.W.1, including central reference and lending library, public health offices, etc., for the B.C. Sir Edwin Cooper, R.A., 4, Verulam-buildings, Gray's Inn, W.C., architect; Mr. G. A. Webster, F.S.I., 5, Verulam-buildings, Gray's Inn, W.C., quantity surveyor :—

Parker Construction Co., Ltd. £116,688
Leslie & Co., Ltd. 115,616
John Mowlem & Co., Ltd. 114,144
Foster & Dicksee, Ltd. 110,831
Higgs & Hill, Ltd. 110,173
E. & J. Cotton, Ltd., Iver 103,106
Davis (Contractors), Ltd. 107,925
J. Gerrard & Son, Ltd., Manchester 106,396
‡Stewart & Partners, Ltd. 104,162
Tarran Industries, Ltd., Hull 101,847
(Rest of London.)

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Seaford.—72 houses in Vale-road, for the U.D.C. Mr. E. Sykes, surveyor :—

*Saunders (Contractors), Ltd., Burgess Hill £30,616

Southampton.—Works, for the T.C. :—

Exterior repairs and decorations to Regent's Park School—
Marshall & Coates £689 0
G. S. Hallum & Sons 619 0
Bignell & Gauntlett 588 7
Brazier & Son, Ltd. 583 0
*A. Danby & Sons 486 17
(Borough Engineer's estimate: £600.)

Exterior decorations to hangars Nos. 1 and 1a and block No. 9 at the Airport—
J. Bates & Sons £888 0
W. Ward 775 0
Brazier & Son, Ltd. 589 0
Bagshaw & Son, Ltd. 495 0
Exors. of W. A. Fussell 475 0
Amos Danby & Sons 449 0
*G. S. Hallum & Sons 440 0
Tebbutt & Co. 301 4

Stafford.—Two houses in Tolldish-lane, Colwich, for the R.D.C. :—

*M. F. W. Collett, Little Haywood ... £750 10

Stanley.—44 A3 type houses and 6 A4 type houses on the Moorhouse estate, for the U.D.C. Mr. J. D. McLeod, architect, 21, King-street, Wakefield :—

‡Alfred Hanks & Son, Ltd., Lea Moor, Stanley, Wakefield £22,997 6

Stockport.—Foundation for retort house at the gas works, for the T.C. Mr. T. Reynolds, Gas Engineer :—

*Gas Department £7,521

Stockport.—Sunday-school in St. Agnes' Parish, Reddish, for the Rev. J. Hands and Parochial Council. Mr. F. Collier, architect, 45, Thornley-lane, Reddish :—

*C. H. Godfrey & Son, Bowling-road, Gorton, Manchester £5,000

Swansea.—Dwellings for the C.B. :—

(*a*) 143 dwellings (21st contract) at Townhill, and (*b*) 142 dwellings (22nd contract) at Townhill—
‡Borough Architect—
(*a*) £48,510 8
(*b*) 50,250 10
214 dwellings on the Hanover-square site—
‡Borough Architect £75,933 3

Swinton and Pendlebury.—New senior school in Cromwell-road, Pendlebury, for the T.C. Messrs. Ralph, Son & Proude, architects, Leaders-buildings, King-street, Wigan :—

Asphalt roofing to flats—
*Limmer & Trinidad Lake Asphalt Co., Ltd., Manchester £664
Steelwork—
*Staveleys, Ltd., Atherton 1,099
Electric lighting—
*Meta, Ltd., Manchester 795
Suspended floors—
*Bolton & Hayes, Ltd., Bolton 1,647
Iron railings—
*Staveleys, Ltd., Atherton 660

Swinton and Pendlebury.—Sliding and folding windows in red deal at the open-air school, for the T.C. Mr. Hubert Bennett, A.R.I.B.A., architect, Dales Brow, Swinton :—

*J. R. Holt, Ltd., Waterfoot ..... (cost) £422

Totnes.—Conveniences and bus shelter at Coronation-road, for the T.C. :—

T. Brook, Totnes £996 0
W. J. Goodridge & Son, Totnes 948 0
*W. J. Cranch, East Allington 850 8

Twechar.—48 houses. Mr. Joseph Weekes, architect, 18, Park-circus, Glasgow :—

Excavation, brick and mason—*J. Fleming, Glasgow.
Joinery, carpentry and ironmongery—*Paterson & Grindley, Kilsyth.
Glazing and allied works—*Ernest J. Johnstone, Glasgow.
Slater work and roughcasting, etc.—*J. Carroll & Sons, Cumbernauld.
Plaster work and lathing, etc.—*J. Stewart & Sons, Kirkintilloch.
Painter and allied works—*Peter Mathieson, Kirkintilloch.
Plumber work and sanitary fittings—*Carroll and Co., Ltd., Cumbernauld.
Footpath and sewage works, etc.—*Stark & Dobbie, Glasgow.
Electrical fittings and installation—*J. Carroll, Cumbernauld.

Upholland.—20 additional houses and store rooms on Alma Hill housing site, and 34 store rooms to existing houses, Alma Hill site, for the U.D.C. Mr. A. Hunt, surveyor :—

*T. Dickinson & Sons, 172, Ormskirk-road, Holland Moor, near Wigan ... £7,888

Wainford.—Eight houses at Ringsfield, Spexhall and Rumburgh, for the R.D.C. :—

*H. Hipperson & Sons, Beccles ... £3,677 10

Wakefield.—Installation and wiring of lighting for the new swimming baths in Sun-lane, for the T.C. Mr. H. G. Fraser, Electrical Engineer, Electrical Showrooms, Wood-street.
*H. Smith, Church Institute, Westgate, Wakefield £1,343 15 0

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Walsall.—24 houses on the Goscote housing site (section 5), for the T.C.:—
*Dickinson & Holford, Ltd., Lower Forster-street, Walsall £7,222

Wandsworth.—Works for the B.C.:—
Supply, delivery and erection of iron fencing in Garratt Park—
*Bayliss, Jones & Bayliss £367 15 9
Installation of electricity in the dwellings in course of erection on the Garratt-lane housing site—
*Electric Power Installation Co., Windsor House, Victoria-street, Westminster, S.W.1 ..... £3,155 10 0
Interior painting works at 1/37 (odd) and 2/32 (even) Longstaff-road, Southfields housing estate—
*F. J. Rashbrook, Ltd. £265 0 0
Band stand in King George's Park—
*Wilson Bros. £928 0 0
345 lineal yards of oak fence at Putney Vale Cemetery—
*J. Stenning & Son, Ltd. £371 0 0

Westminster.—Repairs, alterations and minor decorations to Council flats, for the City Council:—
Admiral House, Willow-place—interior decorations—
*Sims & Russell £350 18 8
Ebury Bridge estate—interior decorations—
*Sims & Russell £2,764 5 0
Regency-street dwellings—interior decorations—
*Sims & Russell £1,365 15 0

Wicklow.—Cottages, for the Board of Health:—
51, at Rathdrum—
*F. Ryan, Thurles £15,429
11, at Baltinglass—
*C. Short, Thurles 3,278
10, at Baltinglass—
*C. Short 2,985
11 others—
*C. Short 3,350

Woburn Green.—Extension of factory, for Messrs. Screw Machine Products, Ltd. Messrs. Burgess, Holden & Watson, architects, Station Approach, Beaconsfield:—
*F. Green, Oakend-way, Gerrards Cross.

Worcestershire.—Works, for the C.C.:—
Senior girls' school at Halesowen—
*Wm. Cooper & Sons, Ltd., Blackheath, Birmingham—
Main buildings £25,514
Gymnasium 3,434
Council school at Blackminster, near Evesham—
*G. Foster, Broadway £21,273
Senior council school at Catshill—
*J. & A. Brazier, Ltd., Bromsgrove ... £26,229
Works at the new Halesowen Technical School:—
Provision and installation of low-pressure hot water heating apparatus and domestic hot water supply—
*Hopes Heating & Lighting, Ltd., Smethwick £1,120
Provision of metal window frames—
*John Gibbs, Ltd., Kings Heath, Birmingham £1,284
Enclosing the open verandahs on the north and south sides of the quadrangle at the Stourbridge High School for Girls—
*A. H. Guest, Ltd., Stourbridge £270

Wycombe.—Six cottages at Kimble, for the R.D.C.:—
*S. Hickman & Sons £2,360

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